



Adding years of healthy life

CHOOSE HEALTHY FOOD



Thank you Doctors & Nurses



NHG CARES

FOR

A HEALTHIER YOU *

→ HEALTHIER SG



DRINK MORE WATER



NHG MILESTONES: 2023

PURSUING EXCELLENCE IN POPULATION HEALTH



NGEMR 'Go-Live' in Yishun Health



Launch of Health Kampung @ POPCollect 2023



Khoo Teck Puat Hospital and Breast Cancer Foundation sign MOU to establish first Breast Cancer Support Centre in Singapore



Phase 1 of iConnect goes 'live'

14 April

25 February

26 April

4 February

20 May

January



Tan Tock Seng Hospital fosters Community Support Network at Jalan Kayu Community Health Club



31 May

January



IMH celebrates 95th Anniversary with the unveiling of a new Community Garden



Institute of Mental Health extends Outreach for Youth Mental Health Support



Launch of New Singapore Standard to guide nutrition and food services for infants and children by NHG, Singapore Manufacturing Federation-Singapore Development Organisation, and Singapore Standards Council



Official opening of co11ab Novena by A*STAR, NTU, and NHG



National Medical Excellence Awards 2023: A/Prof Brenda Ang, Senior Consultant, Tan Tock Seng Hospital and National Centre for Infectious Diseases, was bestowed the National Outstanding Clinician Mentor Award



Opening of Tan Tock Seng Hospital's new Integrated Care Hub



Soft opening of Woodlands Health



President's Award for Nurses 2023: Dr Hoi Shu Yin, Chief Nurse, Tan Tock Seng Hospital

22 August

31 August

2 October

22 December

28 July

18 October

25 November

July



Launch of the NHG Network For Senior Volunteers

25 October



Official opening of Sembawang Polyclinic



Launch of CHI Health and Social Change Academy



Official opening of the National Skin Centre's new building



Official launch of NHG Cares in conjunction with Healthier SG

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WE ARE NHG



The National Healthcare Group (NHG) is a leader in public healthcare in Singapore recognised for the quality of its medical expertise and facilities. Care is provided through an integrated system of primary care polyclinics, acute care and tertiary hospitals, and national specialty centres. Together, we provide comprehensive and innovative healthcare to address the unique needs of our patients and the population we serve.

As the Regional Health Manager for 1.5 million residents in Central and North Singapore, NHG through its Central, Woodlands, and Yishun health networks collaborates with private general practices, public and community health and social care providers to keep residents well and healthy.

The 22,000 healthcare professionals in NHG are committed towards building healthier and resilient communities, and *Adding Years of Healthy Life* to the people we serve.

OUR VISION

ADDING YEARS OF HEALTHY LIFE

OUR CORE VALUES

PEOPLE-CENTREDNESS

We value diversity, respect each other, and encourage joy in work.

INTEGRITY

We commit ourselves to the highest standards of ethical conduct.

COMPASSION

We care with love, humility, and empathy.

STEWARDSHIP

We are responsible for the care of our people, patients, and population.

ABOUT THE COVER

The cover depicts how NHG is actively engaging our staff, patients, residents, and population to lead Happier, Healthier lives.

EDITORS

Lydia Soh, Jason Chiew

CONTRIBUTORS

Benetta Lim, Cassie Low, Benjamin Ho, Bernadette Chong, Christina Low, Christopher Foo, Corrine Teh, Eugene Seng, Guo Qianping, Jacinta Ong, Jen Chia, Joy Chua, Kong Kum Yin, Lim Yin-Fern, Low Sim Yee, Michelle Jessica Pereira, Michelle Teo Shumei, Ng Yixin, Reuben Ho, Sabrina Ng, Sri Bayu Ayu Binte Jakariah, Tan Hwee Jia, Tan Mei Xuan, Tracy Bay, Vera Soo, Zhang Jingyang

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[National Healthcare Group](https://www.linkedin.com/company/nhg)



CHAIRMAN'S MESSAGE



MR TAN TEE HOW

For the past year, the NHG Institutions have fully resumed normal operations, with the global and local COVID-19 situation under control. This would not have been possible without the hard work and sacrifices of our frontliners and support of the multitude of healthcare workers behind the scenes. I would like to applaud all of you for weathering this long-drawn health crisis with extraordinary fortitude, solidarity, and professionalism.

While we remain vigilant to potential emerging diseases, it is time to build on the valuable lessons the COVID-19 pandemic has taught us. Our healthcare system must be resilient, robust, and adaptable, especially in the face of crises. On a national level, Singapore will set up a new Communicable Diseases Agency (CDA) to oversee disease preparedness, prevention and control, surveillance, risk



assessment, and outbreak response. The CDA will maintain oversight of the clinical facilities in the National Centre for Infectious Diseases (NCID), while working closely with the Ministry of Health (MOH) and Tan Tock Seng Hospital (TTSH) to prepare for future outbreaks.

With the resumption of global travel, NHG has helped put Singapore on the world medical conference map by playing an integral role in two major international events. In July 2023, the National Skin Centre (NSC) supported the 25th edition of the World Congress of Dermatology (WCD). NHG also co-hosted RehabWeek 2023 with the International Consortium of Rehabilitation Technology (ICRT), and Ruijin Hospital, Shanghai Jiao Tong University School of Medicine, in September 2023.





PURSuing POPULATION HEALTH

NHG's care transformation journey through our *River of Life* framework, which was initiated several years ago, is aligned with *Healthier SG*. We have sharpened our focus by establishing NHG Cares – a unified platform to serve the 1.5 million residents in Central and North Singapore, connecting them via a website, a mobile app, and a hotline.

To adequately meet the needs of the residents under its care, NHG will look into strengthening its acute care and aged care systems.

underscoring the urgent need to fortify mental health performance on all fronts.

In October 2023, the Government introduced the National Mental Health and Well-being Strategy. To support the Strategy, IMH has shored up its community-based programmes, each of which targets different segments of the population with diverse mental health needs. IMH has also been training primary care doctors to better identify and manage milder cases of mental illnesses.

SAFEGUARDING MENTAL HEALTH

A study conducted by Duke-NUS Medical School and the Institute of Mental Health (IMH) suggested that people with anxiety and depression symptoms could cost Singapore nearly \$16 billion a year, caused mainly by absence from work and loss of productivity. The economic cost is staggering,



ENHANCING INFRASTRUCTURE

This year also saw the completion of new developments.

TTSH's new Integrated Care Hub (ICH) began operations in October 2023 and when fully opened, it will have 608 beds, making TTSH-ICH Singapore's largest inpatient rehab recovery facility.

Marking a milestone in dermatology in Singapore, the NSC inaugurated its new building in October 2023, equipped with enhanced capacity and resources to better address the diverse and evolving skin health needs of our population.





Change can be powerful if we are determined to embrace and evolve with it."

Mr Tan Tee How
CHAIRMAN, NHG

As of October 2023, IMH has refurbished 11 of its acute wards, including the creation of the new Stepping Stones Rehabilitation Centre and Short Stay Unit.

NHG will be further bolstered with the opening of Sembawang Polyclinic and Woodlands Health by December 2023.

ADVANCING ACADEMIC HEALTH

NHG signed a Collaboration Framework Agreement with NTU's Lee Kong Chian School of Medicine (LKCMedicine) in September 2023. We will jointly develop education, research, and innovation over the next 10 years to build a more integrated healthcare education system.

NHG and LKCMedicine also jointly launched the Academy of Clinician Scientists and Innovators (ACSI), a one-stop platform to nurture our pool of clinician scientists and innovators, and catalyse their translational research efforts.



LEADERSHIP TRANSITION

On behalf of the NHG Family, I would like to express my deepest appreciation to Professor Philip Choo for his exemplary leadership and contributions as Group CEO for the past nine years. I would also like to congratulate Mr Joe Sim on his new appointment as the next Group CEO of NHG. He will assume the leadership with effect from 1 January 2024.

We thank Mr Ramlee bin Buang, Dr Tan Khai Tong, Ms Lock Yin Mei, and Adjunct Professor Er. Lau Joo Ming, who have stepped down from the NHG Board, for their commitment and counsel during their tenure.

LOOKING AHEAD

The life expectancy of Singaporeans is one of the highest in the world at 84.9 years, yet we spend our last 10 years in poor health. If NHG could turn these last 10 years into good years, it would be adding 15 million years of healthy life for the 1.5 million residents we serve. To attain this, we will have to undergo transformation – shifting resources to support new priorities, building new capabilities, and restructuring the organisation.

Change can be powerful if we are determined to embrace and evolve with it. I am confident that the NHG Family will remain united, resolute, and adaptable, as we forge ahead in our journey to build *Healthier, Happier Communities for our Population*, and thus achieve our vision of *Adding Years of Healthy Life*.





GROUP CEO'S MESSAGE



PROFESSOR PHILIP CHOO

We have indeed weathered a challenging FY2022 that culminated with the nation reverting to DORSCON Green status in February 2023. Despite the resumption of Business-As-Usual (BAU) activities and the reopening of our borders, NHG has remained steadfast in our mission to deliver quality care to our patients and residents, while simultaneously maintaining our vigilance in swiftly managing periodic surges in COVID-19 cases. A big “Thank You” to every individual across the NHG Family for walking on this tightrope of managing COVID-19 infections as an endemic disease, as well as ensuring the successful implementation of fresh healthcare initiatives to transform care for our patients and residents we serve.

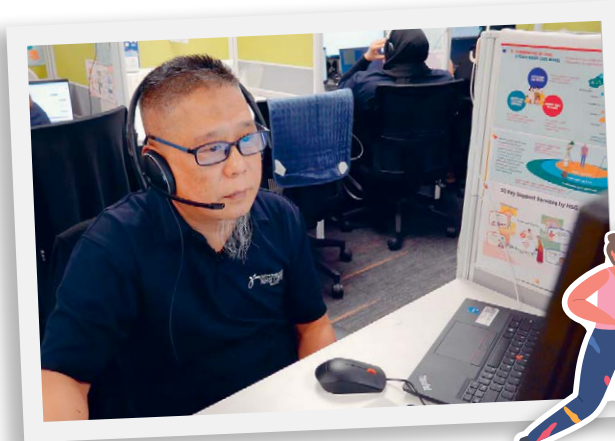
PROVIDING CARE FOR A HEALTHIER SG

The nation’s new preventive care strategy, *Healthier SG*, is a decisive and transformative shift in our healthcare system that will improve



the health of the population through active engagement. It also resonates strongly with **NHG Cares**, our expanded mission to drive better health for our population in the wider community. We embarked on this care transformation several years ago with our *River of Life* framework. As the Regional Health Manager for 1.5 million residents in Central and North Singapore, I am thus excited that all our hard work in preventive care is taking shape to enable quality of life for all. It is our hope that NHG Cares serves as a comprehensive unifying platform for our population health care plans.

We have been making good progress to address the health and social care needs of residents, leveraging technology to deliver concierge-style customer care services, as well as facilitating General Practitioners’ (GPs) onboarding and residents’ enrolment to *Healthier SG*. I am excited about the many developments taking place and am grateful for all the committed partnerships formed to build Healthier, Happier Communities Together.





GROUP CEO'S MESSAGE

STRENGTHENING CAPABILITIES IN ACUTE CARE

Tan Tock Seng Hospital (TTSH), together with its research network partners, Nanyang Technological University (NTU), Lee Kong Chian School of Medicine (LKCMedicine), Changi General Hospital (CGH), and Singapore General Hospital (SGH), set up the Singapore Severe Asthma Registry (SSAR) in April 2022. SSAR is the first multicentre, large-scale registry of severe asthma patients in Singapore that doubles as a database of evidence of treatment effectiveness and safety, to improve treatment outcomes for severe asthma condition. The data collected is analysed against other international registries that will help enhance our global perspective and understanding of the condition in the Singapore context.

To cope with increasing cases of Benign Prostatic Hyperplasia (BPH), the Urology department of Khoo Teck Puat Hospital (KTPH) introduced the Minimally Invasive Surgical Therapy (MIST)-REZUM Therapy between 2021 and 2022. Patients who received the treatment avoided medication for side effects and the need for frequent clinical follow-up. The MIST treatment is also ideal for patients who are unfit for general anaesthesia as it can be performed under local anaesthesia.

Since 2020, Woodlands Health (WH) has been piloting Pre-Hospital initiatives that alleviate the burden on hospitals' Emergency Departments (EDs) and cultivate the right health-seeking behaviour among patients with the implementation of its GPFirst and NurseFirst programmes, as well as its Urgent Care Centre (UCC). In September 2022, WH launched Direct Access, a pilot service that allowed its primary care partners to directly refer patients for gastroscopy and investigations like eye screenings to be done at Admiralty Medical Centre. Direct Access



brought previously inaccessible services into the community, thereby lessening the waiting time for diagnosis and treatment for patients.

BOOSTING MENTAL HEALTH SUPPORT

It has been well established that good mental health precedes good physical well-being. Research has shown that a person who is mentally healthier tends to have better health outcomes. As Singapore's only tertiary psychiatric care institution, the Institute of Mental Health (IMH) plays an important role in maintaining the nation's mental health. To boost the population's mental health, IMH has moved upstream towards a preventive care approach via community-based initiatives designed to improve access and facilitate early intervention. To this end, IMH has launched a national training curriculum to boost the capability of youth community mental health service providers in Singapore. From 2023 to 2024, IMH aims to standardise this national training curriculum to conduct mental screening and assessment for youths who have mild to moderate mental health conditions. This project is a follow-up from a 2020 collaboration with the Ministry of Health (MOH) and Agency for Integrated Care (AIC) to train the Youth Community Outreach teams (CREST-Youth) and Youth Integrated Teams (YITs).

IMH has also paved the way forward to help hospitals better streamline care processes, as well as optimise utilisation of healthcare resources and elevate skillsets of clinicians, to manage challenging mental conditions. In December 2022, IMH signed a memorandum of understanding with Sengkang General Hospital (SKH) to enhance SKH's capabilities in managing





NHG and our Institutions have to continually engage our community, build capacity and capability, strengthen preventive care at the Primary Care level as the first line of defence against illness, and integrate health and social care so that we can holistically address the needs of the population we serve.”

Prof Philip Choo
GROUP CEO, NHG

and boosting mental resilience among youth and the elderly. Additionally, concerted efforts have been made to care for the mental well-being of our nation’s healthcare professionals. Since 2021, IMH has developed a series of e-module programmes on mental health literacy designed for our fellow colleagues in healthcare. They will be made accessible to community partners, volunteer groups, and healthcare organisations in 2024.

ENABLING BETTER CARE IN THE COMMUNITY

I am excited that we have made further inroads into the communities with NHG’s *Health Kampung*, our ‘marketplace’ of community programmes curated to wrap care around our residents more comprehensively. Unveiled at the NHG Population Health Collective (POPCollect) Annual Workplan Seminar 2023, *Health Kampung* offers more than 1,000 programmes in one menu.



Accessible from our NHG Cares call centre, website, and mobile app, *Health Kampung* comprises programmes offered by NHG, community partners, and national agencies, designed to activate residents towards healthier living. This initiative aligns with *Healthier SG* and our NHG Cares mission to build up a Community of Care (CoC) in every neighbourhood across Central and North Singapore. By enhancing access beyond physical touchpoints, NHG hopes that residents will be further empowered to select activities close to where they live, to make their daily routines healthier.

On the ground, TTSH, as the anchor hospital in the Central region of Singapore, has extended its health programmes to Jalan Kayu Community Health Club, which officially opened its doors in February 2023. TTSH’s central network of health and social care providers conduct health talks and group coaching sessions at the health club, targeting residents with high health risks. We are excited to be part of this pilot community project that aims to bring preventive health and chronic disease management to the neighbourhood. At





GROUP CEO'S MESSAGE



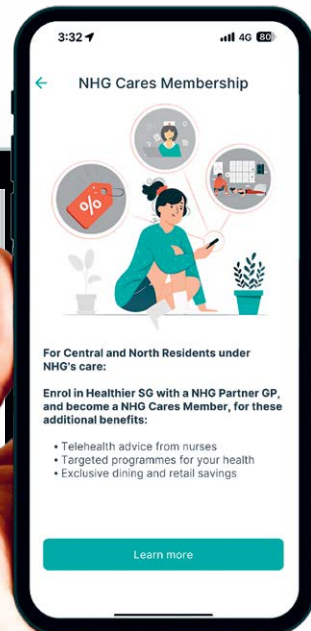
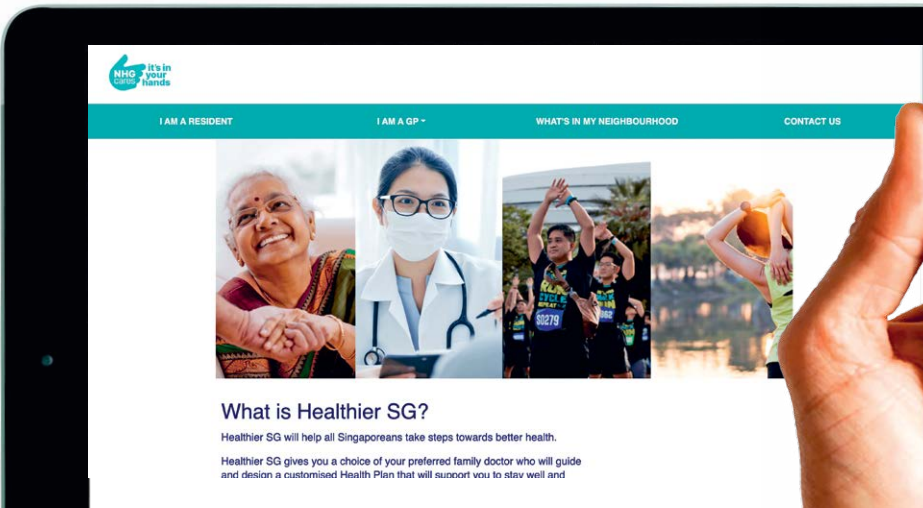
Yishun Health, a volunteer-led community dance programme, Dance UP, was initiated in February 2022 to support residents above 50 years old. Professionally-developed choreography taught by volunteers keeps the activity accessible and attuned to the abilities of participants. In 2023, WH stepped up its efforts in moving care upstream to strengthen its network of partners that form CoCs. It established six Community Health Posts (CHPs) nestled at Active Ageing Centres in the north-western region. Managed by WH's multidisciplinary Community Health Team (CHT) comprising community nurses, health coaches, and care coordinators, each CHP serves as a touchpoint within the neighbourhood to support residents in managing their health.

STREAMLINING OUR DIGITAL EXPERIENCE

We have also taken steps to make community programmes more accessible to residents digitally. Our NHG Cares app offers a one-stop digital solution to facilitate the health and social needs of the residents and patients we serve. *Health Kampung*,



as mentioned, is accessible through the app. Residents can view and sign up for activities that are organised near their homes. Together with our partners, plans are underway to further enhance *Health Kampung* with new features that enable residents to join interest groups and invite friends to participate. Besides *Health Kampung*, the NHG Cares app also hosts a membership programme for our enrolled residents, and a rich library of health resources that residents can use to keep fit and stay healthy. There are also specialist patient care apps for them to personally monitor their own health, or for discharged patients to recover safely at home. As of October 2023, the NHG Cares app has been downloaded more than 23,500 times, and more than 11,200 users have registered for *Health Kampung* through the app. For our partners, we are developing the NHG Cares Partners e-Portal, which will allow them to update their programmes in *Health Kampung* in real-time, and monitor sign-ups and attendances. This e-Portal is a key channel for NHG to share information with partners on the needs of the population residing





around their facilities so that collectively, we can plan programmes and services that better serve residents' needs.

On the operational back end, we have been working diligently in the harmonisation of the National Billing System (NBS), the National Harmonised Integrated Pharmacy System (NHIPS), and the Next-Generation Electronic Medical Record (NGEMR) system. Together, these three systems — also known as the Big Three National Systems — aim to consolidate clinical records, research data, patient management, billing, accounting, and pharmacy services. The successful integrated digital roll-out of these systems will lay the foundation for NHG to drive sustainable models of care that will effectively improve health services for our patients, residents, and caregivers.

PROMOTING STAFF WELL-BEING

After more than three years of battling COVID-19, I am happy that we were able to bond as One NHG and let our hair down during the NHG Dinner and Dance in March 2022. It was the first such celebration in a while where all of us could mingle and interact in-person. The night saw 68 staff receiving their Long Service Awards, in recognition of their contributions to NHG.

As part of our internal efforts to enhance staff experience digitally, iConnect was successfully launched in January 2023 to replace its predecessor, iHR. All NHG personnel are now able to attend to human resource-related matters more seamlessly, anytime, anywhere, through their mobile functionalities.

EMBRACING CHANGE FOR A SUSTAINABLE FUTURE

We have come a long way since our early days of episodic hospital-centric care. Today, NHG and our Institutions continue to meaningfully engage our community and build its capacity

and capability, strengthen preventive care at the Primary Care level as the first line of defence against illness, and integrate health and social care so that we can holistically address the needs of the population we serve. As we pivot from a transactional model of care to one that is longitudinal- and relationship-based, we would have to constantly re-evaluate ourselves with these questions: *How do we maintain the health of our defined population? How do we teach them to be healthy? How do we encourage them to adopt healthy lifestyle habits? How do we look after them beyond our doors?* The answers would inevitably require our healthcare workers to build and improve capabilities, take up more responsibilities, and work with more teams and community partners.

Despite the challenges we face, I am confident that if we extend our health programmes into schools and workplaces, leverage digital health for younger residents, strengthen community care in every neighbourhood, as well as continue our quest to make healthcare more resident-centric, we would indeed realise our vision of **Adding Years of Healthy Life** for a Healthier SG.





BOARD OF DIRECTORS

AS OF 22 OCTOBER 2023



1 **Mr Tan Tee How**
CHAIRMAN

2 **Mr Ng How Yue**

3 **Mr Augustin Lee**

4 **Mr Tow Heng Tan**

5 **Mrs Yee Jee Hong**

6 **Ms Chu Swee Yeok**

7 **Mr Patrick Tay**

8 **Ms Lillian Lee**

9 **Mr Ong Yew Hing**



NOT IN PHOTO



- 10 **Dr Wong Chiang Yin**
- 11 **Mr Abdul Hamid bin Abdullah**
- 12 **Adj Professor Er. Lau Joo Ming**

Our appreciation to former NHG Board Members Mr Ramlee bin Buang, Ms Lock Yin Mei, and Dr Tan Khai Tong for completing their tenure.



NHG SENIOR MANAGEMENT



Prof Philip Choo
GROUP CHIEF EXECUTIVE OFFICER
National Healthcare Group



Mr Joe Sim
GROUP CHIEF EXECUTIVE OFFICER
- DESIGNATE
(As of 1 December 2023)
National Healthcare Group



Prof Jason Cheah
DEPUTY GROUP CHIEF
EXECUTIVE OFFICER
(ACCOUNTABLE CARE)
National Healthcare Group
CHIEF EXECUTIVE OFFICER
Woodlands Health



Prof Eugene Fidelis Soh
DEPUTY GROUP CHIEF
EXECUTIVE OFFICER
(INTEGRATED CARE)
National Healthcare Group
CHIEF EXECUTIVE OFFICER
Tan Tock Seng Hospital &
Central Health



Prof Chua Hong Choon
DEPUTY GROUP CHIEF
EXECUTIVE OFFICER
(STRATEGY & TRANSFORMATION)
National Healthcare Group
CHIEF EXECUTIVE OFFICER
Khoo Teck Puat Hospital &
Yishun Health



Prof Tan Suat Hoon
DIRECTOR
National Skin Centre



Prof Chin Jing Jih
CHAIRMAN MEDICAL BOARD
Tan Tock Seng Hospital &
Central Health



A/Prof Pek Wee Yang
CHAIRMAN MEDICAL BOARD
Khoo Teck Puat Hospital &
Yishun Health



**A/Prof Swapna
Kamal Verma**
CHAIRMAN MEDICAL BOARD
Institute of Mental Health



A/Prof Nicholas Chew
CHAIRMAN MEDICAL BOARD
Woodlands Health



A/Prof Michelle Jong
GROUP CHIEF EDUCATION OFFICER
National Healthcare Group



A/Prof Yong Keng Kwang
GROUP CHIEF NURSE
CHIEF WELLNESS OFFICER
National Healthcare Group



A/Prof Terence Tang
GROUP CHIEF CLINICAL
INFORMATICS OFFICER
National Healthcare Group



Mr Lim Thow Chang
GROUP CHIEF INFORMATION
SECURITY OFFICER
National Healthcare Group



Mr Darion Chong
GROUP CHIEF CORPORATE
DEVELOPMENT OFFICER & GROUP
CHIEF DATA PROTECTION OFFICER
National Healthcare Group



Ms Yen Tan
CHIEF OPERATING OFFICER
Khoo Teck Puat Hospital &
Yishun Health



Dr Wong Kirk Chuan
CHIEF OPERATING OFFICER
Woodlands Health



Mr Timothy Liu
CHIEF OPERATING OFFICER
Institute of Mental Health



Prof Susan Niam
CHAIRMAN, ALLIED
HEALTH COUNCIL
National Healthcare Group
ADVISOR, ALLIED HEALTH & CAPE
Tan Tock Seng Hospital



Prof Benjamin Seet
DEPUTY GROUP CHIEF
EXECUTIVE OFFICER
(EDUCATION & RESEARCH) &
GROUP CHIEF RESEARCH OFFICER
National Healthcare Group



Prof Lim Tock Han
GROUP CHAIRMAN
MEDICAL BOARD
National Healthcare Group



A/Prof Daniel Fung
CHIEF EXECUTIVE OFFICER
Institute of Mental Health



Dr Karen Ng
CHIEF EXECUTIVE OFFICER
National Healthcare Group
Polyclinics



Mr Joe Hau
CHIEF EXECUTIVE OFFICER
NHG Cares Services



Ms Lim Yee Juan
GROUP CHIEF FINANCIAL OFFICER
National Healthcare Group



Asst Prof Eric Wong
GROUP CHIEF DATA AND
STRATEGY OFFICER
National Healthcare Group



Dr Tang Kong Choong
DEPUTY CHIEF
EXECUTIVE OFFICER
Tan Tock Seng Hospital &
Central Health



Dr Tung Yew Cheong
GROUP CHIEF QUALITY OFFICER
National Healthcare Group



Prof Vernon Lee
EXECUTIVE DIRECTOR
National Centre for
Infectious Diseases



Ms Khoo Swee Lan
GROUP CHIEF HUMAN
RESOURCE OFFICER
National Healthcare Group



Ms Jennifer Yap
ACTING GROUP CHIEF CORPORATE
COMMUNICATIONS OFFICER
National Healthcare Group
CHIEF COMMUNICATIONS OFFICER
Tan Tock Seng Hospital



Mr Wilfred Soon
GROUP CHIEF INFORMATION
OFFICER
National Healthcare Group



Ms Ong Jing Fang
CHIEF, GROUP INTEGRATED CARE
National Healthcare Group



Dr Simon Lee
CHIEF OPERATING OFFICER &
CHIEF CLINICAL INFORMATICS
OFFICER
National Healthcare Group
Polyclinics



**A/Prof John
Abisheganaden**
DIRECTOR & SENIOR CONSULTANT,
HEALTH SERVICES & OUTCOMES
RESEARCH (HSOR)
National Healthcare Group



Ms Chan Soo Chung
EXECUTIVE DIRECTOR
National Healthcare Group
Pharmacy



Ms Lim Soh Har
EXECUTIVE DIRECTOR
National Healthcare Group
Diagnostics

Our appreciation to the following former senior management for completing their tenure: A/Prof Chong Phui-Nah, Mrs Olivia Tay, A/Prof Tai Hwee Yee, Ms Wong Fong Tze, Prof Leo Yee Sin, Mr Huan Boon Kean, Dr Jamie Mervyn Lim, Dr Mok Ying Jang, and Dr Heng Bee Hoon.

Population Health



NHG has taken its expanded mission as NHG Cares to support the national *Healthier SG* strategy in caring for the population residing in Central and North Singapore. We are effectively shifting healthcare beyond the walls of our Institutions, as we aim to attain a longer-term sustainable model that addresses not just health, but social drivers, and a holistic perspective of how we invest in the well-being of our population.





Healthier
SG



POPULATION HEALTH



POPULATION HEALTH

ENABLING HEALTH TOGETHER

NHG Cares Membership

Residents living in Central and North Singapore who have enrolled with National Healthcare Group Polyclinics (NHGP) or an onboarded General Practitioner (GP) under *Healthier SG*, are automatically registered as NHG Cares members. Launched in tandem with the *Healthier SG* initiative to support residents in their lifelong journey in healthy living, NHG Cares membership enables residents easy sign-up to the suite of population health programmes and services offered by NHG, our community partners, and other national agencies. This free-of-charge membership allows residents to utilise innovative subscription plans, rewards, and incentives, designed to drive preventive health behaviours. Residents can also tap on NHG Cares health concierge and nurse telehealth services to make more informed choices about their personal health and care.

Launch Of *Health Kampung*

Unveiled by Minister of Health Ong Ye Kung at the NHG POPCollect Annual Workplan Seminar on 14 April 2023, *Health Kampung* is a community-building initiative that connects the 1.5 million residents in



Central and North Singapore to a 'marketplace' of more than 1,000 health and social programmes, accessible across 365 sites through the NHG Cares app. The programmes cater to the diverse interests and intensity levels of customised care plans of our residents, based on their health and social needs. They are broadly categorised into seven interest areas — 'Move &

Exercise', 'Buy, Cook & Eat', 'Stay Mentally Fit & Active', 'Live, Learn & Laugh', 'Equip & Support Caregivers', 'Manage Your Health & Life', and 'Volunteer & Contribute'. Residents may consult their polyclinic physician or *Healthier SG*-onboarded family physician on appropriate programmes to sign up either via the NHG Cares app or by contacting the organisers listed in the app.





ENHANCING PATIENT CARE THROUGH DIGITAL TRANSFORMATION

NHG adopts a Digital Health Master Plan and actively works with strategic partners to remain at the forefront of innovation and technology adoption in implementing faster, better, more competitive, and safer business solutions to improve the overall quality of patient care.

NGEMR

Go-Live, Go-Right!

Next Generation Electronic Medical Record (NGEMR)

The Next Generation Electronic Medical Record (NGEMR) is an advanced, integrated medical record system put in place by the Ministry of Health (MOH) for the Singapore population, which amalgamates sub-systems and functions across participating institutions. This key digital transformation project continued another year of its roll-out to NHG Institutions.

February 2023 saw NGEMR Go-Live in Yishun Health, which comprises Khoo Teck Puat Hospital (KTPH) and



Yishun Health celebrating the immense effort put in as an institution, in collaboration with the NGEMR project team, comprising Group Health Informatics, Synapxe Pte Ltd, and EPIC.

Yishun Community Hospital (YCH). Close to 5,400 staff onboarded the system and underwent stipulated hours of training and assessments to ensure their competency.

The following NHG Institutions are slated to Go-Live on NGEMR by the end of 2024: Integrated Care Hub managed by Tan Tock Seng Hospital (TTSH), Sembawang Polyclinic, Woodlands Health, Institute of Mental Health (IMH), Khatib Polyclinic, and National Skin Centre (NSC).

The NGEMR does not serve as an end to the digital transformation journey at NHG, but rather lays a foundation to make way for digital initiatives that will further enhance efficiency for care teams in their delivery of patient care, while preserving security and integrity in the systems. NGEMR paves the way for users to incorporate the multitude of functionalities into their clinical and operational duties, that would lead to better service delivery, higher

efficiency, and facilitate seamless communications, as well as reduce our carbon footprint.

National Billing System And National Harmonised Integrated Pharmacy System

The National Billing System (NBS) and National Harmonised Integrated Pharmacy System (NHIPS) are two up-and-coming initiatives that will augment NGEMR in the aspects of billing and medication supply. They are targeted for a phased roll-out from 2023.

NHG Cares App In App Store And Google Play

Rolled out as a resident's health companion as well as a digital 'front door' to NHG's suite of services, the NHG Cares app was first made available on App Store and Google Play in Q1 of 2023. The app was subsequently refined for its soft release in July 2023 to coincide with the launch of *Healthier SG*. The NHG





POPULATION HEALTH

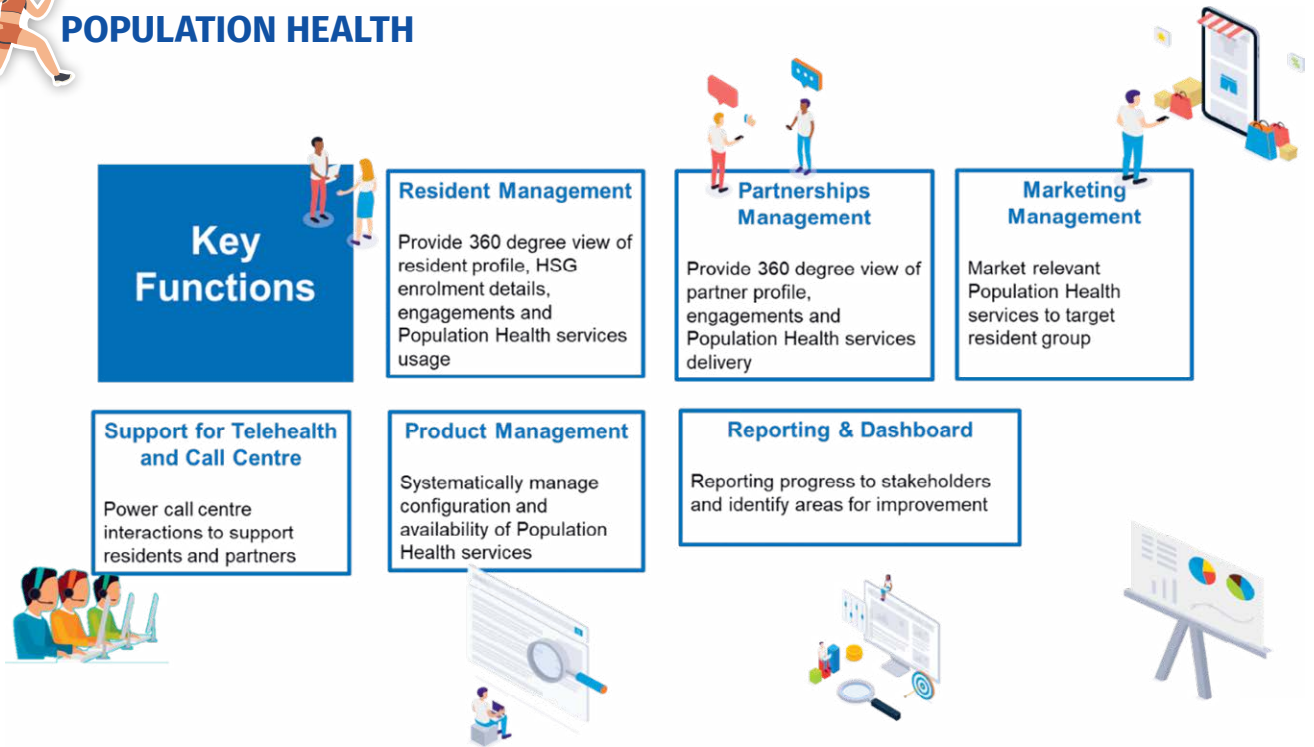


Figure 1: Overview of NHG Population Health CRM Key Functionalities

Cares app encourages residents to set their own health goals and targets to cultivate a sense of health ownership. As NHG Cares members, *Healthier SG*-enrolled residents of Central and North Singapore have access to the NHG Telehealth Call Service and enjoy perks offered by partnering retail merchants. With *Health Kampung* within the NHG Cares app, residents can also search and register for a wide range of healthy lifestyle activities in a community near them. The app also offers educational materials

to raise residents' standards of health literacy so that they can be empowered to live well.

New NHG Population Health CRM System To Power Population Health

In FY2023, NHG achieved several milestones with the NHG Population Health Customer Relationship Management (CRM), an enterprise digital solution that has enhanced our population health management. From the conceptualisation phase in January 2022 to the commencement of development in December 2022 and system go-live in April and July 2023, concerted efforts culminated in the creation of a comprehensive, one-stop system designed to support population health efforts and *Healthier SG* operations.

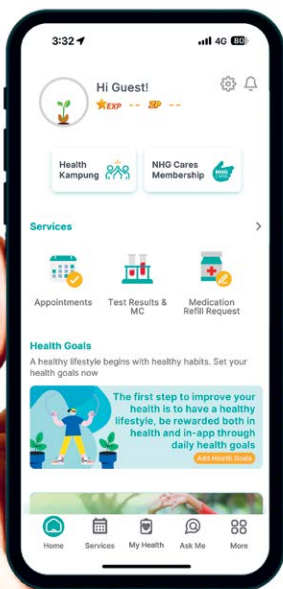
The NHG Population Health CRM is a pivotal tool in our pursuit of improved population health outcomes. By seamlessly integrating various modules, including Resident Management, Partners Management, Marketing Management, Support for Telehealth and Call Centre,

Product Management, and Reporting Dashboard, new dimensions of planning efforts and organisational efficiency have been unlocked (see Figure 1 for key details of each module).

Moving forward, NHG will continue to harness the power of NHG Population Health CRM to support population health and *Healthier SG* operations, cultivate stronger relationships with our residents and partners, as well as drive meaningful change in the pursuit of a healthier nation for all.

Digital Transformation Governance And Protection

An Audit and Compliance function was set up in 2022 to support the NHG Audit and Risk Board Committee and NHG to strengthen its corporate governance through the reviews of NHG's systems, processes, and policies. These reviews are essential tools to enable NHG to deliver reliable services to the public. Additionally, a Control Self-Assessment System was developed in 2022 as a tool to support compliance assessment across NHG.



Enhancing Risk Identification And Safety Management

Launched in June 2022, the incident reporting module of PRISM@NHG supports the identification of hazards, safety, and risks. The system strengthens the foundation of our healthcare services by enabling the early detection and mitigation of safety issues, and the cultivation of a culture of continuous improvement. Incident reviews are conducted in confidence, thereby protecting the privacy of staff and institutions, as well as promoting open communication. Besides actual mishaps, the system also captures near-miss incidents, enabling timely interventions.

NHG Pharmacy Revamped Website

NHG Pharmacy launched its newly revamped website (www.pharmacy.nhg.com.sg) on 31 March 2023 with an improved design to facilitate easier navigation. With more appealing visuals and an improved menu

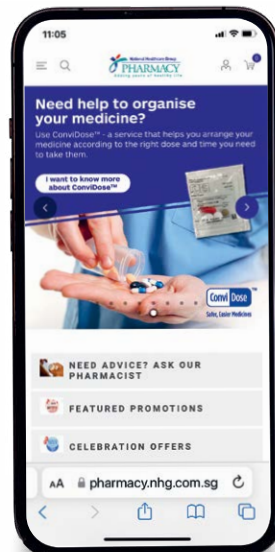
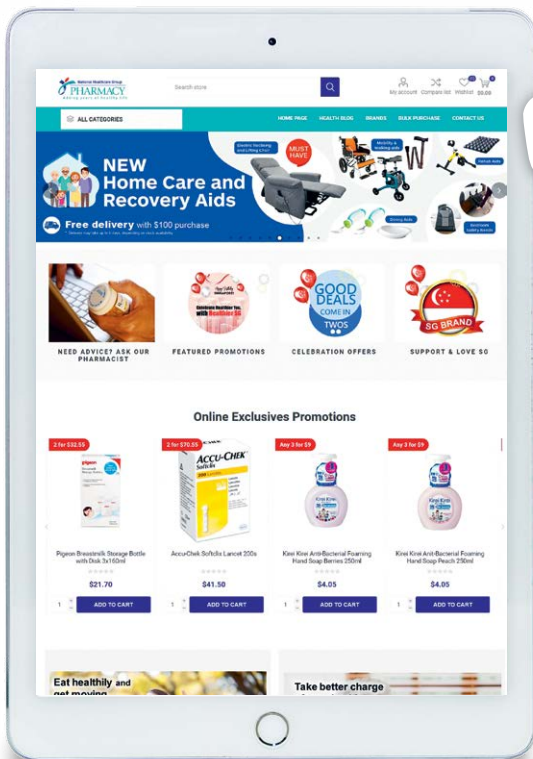
structure, the website is now more user-friendly for users to make online purchases of healthcare products and to access pertinent healthcare information. Separately, access to the online retail pharmacy is also linked to the NHG Cares mobile app, which allows NHG Cares members to seamlessly view and purchase products that support their health and well-being. Members will also be able to access

exclusive retail promotions and carton deals for those who require nutritional feeds to be delivered to their doorstep.

Medication Information On NHG Chatbot

Access to reliable medication information plays a crucial role in supporting patients in their medication management. As part of the strategic workplans by Group Pharmacy Council, an initiative was rolled out in March 2023 to incorporate nationally harmonised medication information into the existing Chatbots across NHG Institutions. The medication-search feature has continued to see an increase in its engagement, reaching a total of over 1,500 sessions of searches by June 2023.

The Chatbots are readily available to answer medication-related queries succinctly with guided navigation to help facilitate users' access to the relevant details about medications. By providing patients with a convenient channel to access reliable medication information anywhere, and at any time, the Chatbot service enables a wider outreach to increase the population's health literacy and empower individuals to play an active role in managing their health and medications.





A Study To Identify Factors Impacting Chronic Diseases

NHG collaborates closely with Lee Kong Chian School of Medicine (LKCMedicine) on the Health for Life in Singapore (HELIOS) study, which aims to identify environmental, lifestyle, and genetic factors that cause heart disease, diabetes, cancer, and other chronic diseases in Singapore. Through HELIOS, new evidence has emerged to support the association between excess amount of visceral fat in Asian population and cognitive performance. The study was published in *The Lancet Regional Health – Western Pacific* medical journal in April 2023. The research team analysed health data of about 8,700 multi-ethnic Singaporeans and Permanent Residents, aged 30 to 84 years old, and observed a link between excess visceral fat and poorer cognitive performance, which was subsequently confirmed with a statistical analysis of global genetic data. These findings highlighted the impact that the prevention and control of obesity in Asian populations could have in maintaining cognitive function and protecting against the future risk of dementia. The study team aims to further examine how excess visceral fat across Asian ethnicities contributes to traits related to one's metabolism, as well as understand the impact of metabolic traits on specific areas of cognition.

New Molecular PCR Testing Capability

The National Healthcare Group Diagnostics (NHGD) introduced Molecular Polymerase Chain Reaction (PCR) testing for Human Papillomaviruses (HPV) DNA in its backend laboratory. The insourcing initiative negates hardcopy orders and results, by allowing results to be viewable on both the software platform EPIC and the National

Electronic Health Record (NEHR). It also enhances the technical competency of the NHGD laboratory team.

BRINGING CARE INTO COMMUNITIES

Building A Healthier SG In Central Singapore

To support *Healthier SG*, Central Health launched numerous partner and resident engagements to envision a healthier community, as well as to identify key areas for improvement. In FY2022, four engagement sessions were organised with 76 Central zone GP clinics to gain insights to augmenting support GPs so that they can better enable their patients to take on more proactive steps to improve health. A one-off focus group discussion was held with 120 residents of Central Health to understand what health and a healthy community meant to them, their loved ones, and those around them in the community.

As the anchor hospital for the Central Health Network in Singapore, TTSH plays a strong role in supporting onboarded GPs in the Central region of Singapore for *Healthier SG*. Working closely with community partners and national agencies like the Health Promotion Board (HPB) and AIC, the Central Health team aims to better integrate health and social care programmes to provide comprehensive holistic support to residents in the communities where they live.

- **Fostering Community Support Networks**

As at 31 October 2023, 270 GP clinics have been onboarded to become *Healthier SG* clinics that support national enrolment initiatives. In preparing GPs to be aligned with *Healthier SG*, Central Health provided them



A Community Health Team from Tan Tock Seng Hospital demonstrating some exercises on fall prevention to GPs.

with NHG-wide cluster support to encourage collaboration with local community partners, such as social service agencies, national agencies, and active ageing centres.

TTSH Community Health Teams (CHTs) have been working closely with community partners to strengthen relationships for the integration of health and social care, including establishing care linkages with one another, for each of Central Health's 49 Community of Care (CoC) networks. A collaborative culture is fostered and cultivated to ensure that community support is enhanced for residents, and that the community support network could facilitate interventions to empower residents to take charge of their own health and improve health outcomes.



Group coaching to better manage metabolic disease held at Jalan Kayu Community Health Club.

- **Facilitating Social Prescribing In Jalan Kayu**

As the regional health manager for the Jalan Kayu constituency, TTSH CHTs participated in the *Healthier SG* pilot programme in the Jalan Kayu neighbourhood in May 2023. TTSH CHTs identified workflows and established care link-ups between participating GPs and community partners. Residents who have developed their health plan with their *Healthier SG*-onboarded GP could have direct access to social and community programmes within their neighbourhood. CHTs also prescribed social needs of GP-referred residents who were presented with complex needs or required closer social support. Establishing the link between GPs and Central Health are GP relationship managers who are the single point of contact to support family doctors in their referral pathway for social prescription and tertiary care.

- **Community Of Care At Ang Mo Kio To Better Support Residents With Preventive Screening**

Preventive health screenings were brought closer to the residents of Ang Mo Kio in March 2023 through a community-



A Community Health Team from Woodlands Health conducting its first health screening, HEALTH, at its Community Health Post situated within the Care Corner Active Ageing Centre in Marsiling.

led initiative. A CoC network comprising AWWA, HPB, PanCare Medical, Silver Generation Office, TTSH & Central Health, and Yio Chu Kang Grassroots Organisation, co-organised 'Health Fiesta: Meet a Healthier You!'. The two-day event saw multiple key stakeholders and volunteers collaborating in multiple areas to provide preventive care services,

which included chronic illness screening, dementia screening, fall risk screening, functional screening, and adult vaccinations. Additionally, PanCare Medical Clinic provided post-event health counselling to all participants on how to keep themselves healthy. Similarly, AWWA and the Yio Chu Kang Grassroots Organisation further complemented their efforts by rallying the interest groups to introduce their activities to residents, who can then participate in to stay active and healthy.

Forming Communities Of Care In Woodlands Health

Woodlands Health (WH) stepped up efforts to move care upstream by fostering strong networks of partners that form CoCs. WH's efforts resulted in the establishment of six Community Health Posts (CHPs) in the northwest region of Singapore. Nestled at Active Ageing Centres, CHPs serve as touchpoints within the neighbourhood to support residents in managing their



GPs visiting a Care Corner Active Ageing Centre in Toa Payoh.



POPULATION HEALTH



health. Each CHP is managed by WH's multidisciplinary CHT comprising community nurses and health coaches, and care coordinators. Since the launch of its first CHP in September 2022, WH has supported more than 450 residents by guiding them to manage their health more effectively through lifestyle changes and/or better management of their chronic conditions.

WH also introduced its first community-based screening programme, *Helping Everyone Achieve Lifelong Health* (HEALTH) in October 2022. HEALTH is targeted at residents aged 40 years and above, who do not have any diagnosed chronic conditions and have not gone for health screening in the past three years. Between October and December 2022, WH screened about 200 residents within three community health screenings. This was achieved through resident engagement and close collaborations with multiple community partners. Residents with borderline or abnormal results were followed up by GPs within the vicinity of the CHPs, which WH actively engages, for post-screening care.

Launch Of Interact Club Of Sembawang

In June 2022, the Interact Club of Sembawang (ICS) was launched at the Admiralty Medical Centre (AdMC) through a partnership between Yishun Health, the Rotary Club of Singapore, and Sembawang Grassroots Organisations (GROs) to strengthen community health in Sembawang. Graced by Health Minister Mr Ong Ye Kung, Grassroots Adviser to Sembawang Central GRO, ICS was hailed as the first Interact Club to service public health



(L-R) A/Prof Steven Ooi (Interact Adviser, Rotary Club of Singapore and Senior Consultant, Executive Director's Office, NCID), Prof Chua Hong Choon (CEO, Yishun Health), Ms Poh Li San (Grassroots Adviser, Sembawang West GRO), Mr Anson Koh (President, ICS), Mr Ong Ye Kung (Grassroots Adviser, Sembawang Central GRO), Mr Louis Lim (President, Rotary Club of Singapore), Dr Lim Wee Kiak (Grassroots Adviser, Canberra GRO) and Dr Chan Siew Luen, Rotary Adviser (Rotary Club of Singapore).

needs in the community, designed to encourage 15- to 19-year old youths to participate in community health promotion and education. With guidance from Yishun Health's Population Health and Community Transformation (PHCT) team, ICS programmes centred on four main areas: metabolic, mental, psychosocial, and environmental health. To kick-start the initiative, Yishun Health facilitated youth attachments to serve in community programmes, such as CHPs and door-to-door outreach, where youths personally connect with residents to understand their strengths and needs, as well as learn about the community support resources available in Sembawang.

PACT Programme To Empower Patients With Diabetes

NHGP's Patient Activation through Conversations (PACT) framework includes one-on-one health coaching for patients with poorly-controlled diabetes;

Group Education and eMpowerment (GEM); and the Bringing about Optimal Outcomes through Self-care and Technology (BOOST) app.

- **One-on-one Health Coaching**
As at 31 March 2023, there were over 600 patients who had completed one-on-one Health Coaching with NHGP Care Coaches over three months. Interim results showed that patients gained significant



Youths in Sembawang participating in community health promotion and education efforts to better understand the needs of residents in their community.

improvements in their blood glucose (HbA1c) levels, mental well-being, and self-care behaviours, such as diet, exercise levels, and medication adherence. Additionally, patients' improved HbA1c levels were sustained 12 months after the programme ended. These results were achieved through patient empowerment, with Care Coaches helping patients to improve self-care behaviour goal-setting, continued motivation, and support.

- **GEM**

NHGP led the development of **Group Education and eMpowerment (GEM)** – a group-based diabetes self-care programme targeted at patients with newly-diagnosed diabetes or poor diabetes literacy, within NHG. Through close partnerships with Yishun Health and TTSH, GEM provides group diabetes education to improve patient outcomes. With support from the Care Manager, Dietitian, Pharmacist, and Care Coach, patients improved their understanding of how to give better care to diabetes through setting health goals, improving lifestyle behaviours, receiving peer support, and having follow-up care with Care Coaches. As of 31 March 2023, NHGP had conducted 18 runs of GEM across its polyclinics for nearly 170 patients.

- **BOOST**

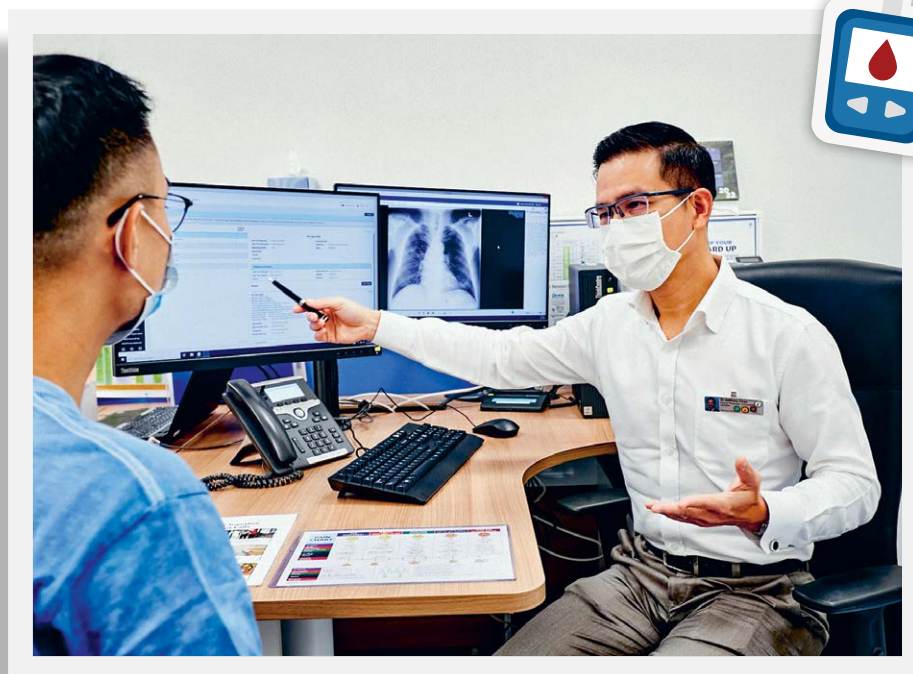
Implemented in September 2023, **Bringing about Optimal Outcomes through Self-care and Technology (BOOST)** is an app-supported PACT programme that provides an alternative mode of

intervention for patients with suboptimal control of diabetes. The app generates a self-care report that facilitates self-reflection and identifies areas for improvement. BOOST-enrolled patients will enjoy access to a curated diabetes education plan. They are also able to set individualised goals and monitor parameters, such as blood glucose, blood pressure levels, weight, and number of daily steps to achieve. Patients' goals and parameters are remotely monitored by their care team. A BOOST pilot has kick-started in Woodlands and Hougang Polyclinics, and there are plans to introduce BOOST to the other polyclinics in FY2024.

Diabetes Mellitus Shared Care Programme

The Diabetes Mellitus (DM) Shared Care Programme at the AdMC Diabetes Centre identifies suitable outpatients to be

co-managed with partnering GPs or Family Physicians, who are the patients' existing primary care doctors or located near the patients' residential addresses. Enrolled patients alternate between visits to partner GPs and their specialists at AdMC. The timely launch of the programme facilitated an avenue of medical support during the COVID-19 restrictions where many outpatient appointments at AdMC were suspended or rescheduled. Patients with DM were heavily impacted by longer windows between specialist follow-ups. The DM Shared Care Programme provided an important way forward to minimise care disruptions and prevent complications and right-site patients to receive appropriate levels of care. This team-based approach optimises the control of chronic conditions in partnership with a Family Physician, who provides preventive care for a holistic approach to disease management and healthcare.



A partnering GP attending to a patient with diabetes mellitus.



Pharmaceutical Care Services

Aligned with MOH's directive, National Healthcare Group Pharmacy (NHGPh) provides community-based Pharmaceutical Care Services (PCS) to empower and support seniors with polypharmacy. The initiative enables this group of seniors to manage their medications independently in the community. This service is specifically offered to seniors who are prescribed more than five medications and have medical appointments with more than three healthcare providers. Upon referral by the centre staff, the PCS pharmacist will visit the centre to conduct an in-depth face-to-face review to identify medication-related problems (MRP), and to co-develop the Pharmaceutical Care Plan with the resident and caregiver. This will also be conveyed to the patient's multidisciplinary care team, including the care centre staff for necessary follow-up actions. Thereafter, the pharmacist will follow up monthly, either via face-to-face consultation or phone call, to determine if a change of care plan is needed.

In FY2021, PCS pharmacists underwent a tailored clinical training and onboarding programme designed by MOH. To-date, NHG successfully rolled out the PCS programme to three day-care centres in June 2022, and another in February 2023. In FY2022, 19 seniors were recruited into the PCS programme. 122 PCS sessions, comprising a mixture of face-to-face consultations and tele-sessions were provided. During these sessions, the PCS pharmacists identified a total of 145 MRPs, of which 77 were resolved during the programme



Through in-person workshops, GPs and their Clinic Assistants learnt and verified essential skills and knowledge to manage the requirements of *Healthier SG*.

period. NHGPh will continue to collaborate with MOH and PCS partners to explore the expansion of coverage and access points to further provide convenience to seniors, in a most cost-effective model.

INTEGRATING CARE FOR BETTER QUALITY OF LIFE

NHG *Healthier SG* Primer For General Practice

The Primary Care Academy (PCA), led by Dr Irwin Chung, Director of PCA, developed the *NHG Healthier SG Primer for General Practice* to equip GPs and their Clinic Assistants (CAs) with the knowledge and skillsets to provide holistic care to patients. The topics include chronic disease management, preventive health initiatives, and health planning, which are delivered through hybrid learning with both online modules, as well as face-to-face round-robin case scenario discussions facilitated by clinicians and allied health professionals. Since its launch in November 2022, PCA has conducted three runs of the workshops, training at least 200 GPs and CAs.

Raising Mental Health Literacy Of Our Population

In 2021, the IMH's Office of Population Health developed a mental health literacy series for IMH staff, comprising five modules with topics, such as understanding and achieving mental wellness; and how to communicate with persons with mental health issues. In 2022, the series was developed into e-Learning modules for self-directed learning with the option to participate in interactive focus group sessions. IMH will progressively streamline the curriculum to be made accessible to community partners, volunteer groups, and other healthcare organisations.

Community Education And Prevention

As part of the NSC's efforts to empower Singaporeans to take charge of their health, the nursing department held several talks in the community in 2023. On 3 September 2022, NSC's Nurse Clinician Norlaila Kamarudin addressed a group of 30 participants at a skin care talk organised by the Toa Payoh West-Thomson Citizen's Consultative Committee at Muhajirin Mosque.



NSC Nurse Clinician Norlaila Kamarudin sharing skin care tips at Muhajirin Mosque.

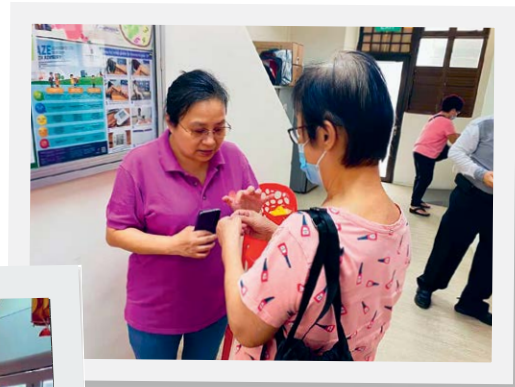
Ms Norlaila provided practical tips on caring for skin conditions commonly seen in the elderly, and spread the message to seek advice from dermatologists on skin issues. Six other NSC nurses volunteered to give skin care advice and perform blood pressure measurements. NSC Nursing also organised a skin care education session at Toa Payoh West–Thomson Active Ageing Committee on 25 February 2023, where Staff Nurse Wang Danling shared the importance of self-care to prevent skin conditions in the elderly. During the hands-on segment, residents learnt proper techniques in emollients application, as well as to recognise signs and symptoms of various skin conditions.

Roles Of Social Support In Health Resilience

A study was conducted by NHG’s Health Services and Outcomes



Research (HSOR) to understand the social support individuals received when they experienced health adversities. Fifty-one individuals and 14 caregivers across various age groups participated in the study. Based on the interviews, four main pillars of support were identified. Firstly, family played a vital role by providing practical support and companionship, and by actively making family-level lifestyle adjustments to support them. Secondly, peers with similar shared experiences helped



NSC Staff Nurse Wang Danling (left) and Nurse Educator Ms Kong Kim Yoke (above), speaking to residents of Toa Payoh West-Thomson Citizen’s Consultative Committee.

participants feel encouraged and understood during a period of increased vulnerability. Thirdly, workplace support, such as flexible work arrangements, gave participants time to balance the need to attend to their medical appointments while maintaining their jobs. Lastly, participants’ spiritual and religious beliefs helped them come to an acceptance of their illness, and to manage their stress and anxiety. Together, these four pillars of support and the roles each played created an environment conducive for individuals to adapt and overcome challenges caused by health adversities. The findings will support public health professionals to design programmes that strengthen and build social support networks to further enhance health resilience.

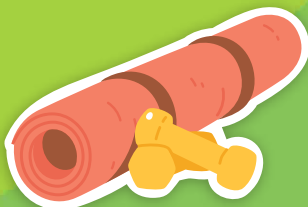
Table 1. Four Themes Describing Roles Of Social Support In Health Resilience

Themes	Description	Sub-themes
Family as anchor	Information, instrumental, and emotional support provided by family facilitated adoption to health challenges	1. Practical support and companionship 2. Empathetic support 3. Family lifestyle adjustment
Peer group encouragement	Encouragement and being understood during a period of increased vulnerability provided a sense of comfort and assurance	1. Companionship and encouragement 2. Shared perspective on health adversity 3. Privacy concerns
Workplace empathy and security	Job security and flexibility in work arrangements allowed recovery with a peace of mind	1. Support from colleagues 2. Job security 3. Flexibility in work arrangements
Spirituality and religion	Spirituality and religious teachings provided solace and solutions during a period of uncertainty	

Living Well



NHG is working closely with General Practitioners (GPs), community partners, and agencies in Central and North Singapore to build healthier, happier communities – by empowering residents to adopt healthy lifestyle behaviours and habits at work, at play, and at home. We are supporting the specific health and social care needs of residents to ensure they stay well in the community for longer.







LIVING WELL



INTEGRATING HEALTH AND SOCIAL CARE FOR BETTER QUALITY OF LIFE

New Singapore Standard To Guide Nutrition And Food Services For Infants And Children

To help address rising childhood obesity rates, NHG collaborated with the Singapore Manufacturing Federation – Standards Development Organisation (SMF-SDO) and Singapore Standards

Council (SSC)-Enterprise Singapore (Enterprise SG) to develop the Singapore Standard (SS) 692 Guidelines for Nutrition and Food Services for Infants and Children.

Launched in May 2023, SS 692 is a comprehensive guide to support the nutritional needs of infants and children up to 12 years old, by empowering care centre operators, schools, and their food service providers to make informed decisions on providing

safe and nutritious meals. This includes identifying suitable food and beverage options, recommending portion sizes for different age groups, maintaining nutritional balance, and preventing foodborne illnesses. NHG is working with relevant agencies to develop resources based on SS 692 and to help school canteen committees implement these guidelines with their food service providers.

Recommended number of servings for breakfast/snacks		Recommended number of servings for lunch/dinner	
<p>6-12 months</p> <p> 50g</p>		<p>6-12 months</p> <p> 50g 23g 25g 33g</p>	
<p>1-2 years</p> <p> 50g</p>	<p>3-6 years</p> <p> 100g 25g</p>	<p>1-2 years</p> <p> 75g 23g 25g 33g</p>	<p>3-6 years</p> <p> 100g 23g 50g 65g</p>
<p>7-9 years</p> <p> 100g 45g 50g 65g</p>	<p>10-12 years</p> <p> 150g 45g 50g 65g</p>	<p>7-9 years</p> <p> 150g 45g 50g 65g</p>	<p>10-12 years</p> <p> 150g 45g 50g 65g</p>

Note: Sample grammage in the infographic is for mixed wholegrain rice, spinach, fish and apple.

Extension Of FitterLife Programme To GP Partners

FitterLife is a community weight management intervention programme, which aims to prevent or delay the onset of chronic conditions such as diabetes in healthy residents through lifestyle changes. Introduced in 2017 and currently operating virtually, FitterLife participants undergo health education, group discussions, and physical exercise. To-date, 600 residents have participated in FitterLife and more than 50 per cent have achieved the desired target weight loss of at least 5 per cent. In line with *Healthier SG*, NHG will work with GP partners to offer FitterLife as one of its structured weight management programmes for enrolled residents.



NCA WELLNESS LEARNING JOURNEY TO PREVENT FRAILTY

To help address rising frailty rates, Dr Ranjana Acharya, Clinical Lead of Tan Tock Seng Hospital (TTSH)'s Patient Education Steering Committee (PESC), in collaboration with frailty experts from National Healthcare Group Polyclinics (NHGP) and TTSH Geriatric Medicine, developed a personalised and engaging platform on the NHG Cares app (NCA) in January 2023 to help individuals better understand frailty and take preventive measures pre-emptively. Using the ADDIE Model and Kirkpatrick's Training Evaluation Model as references, the NCA offers educational resources tailored to different levels of frailty, along with quizzes to reinforce users' understanding of their health status. A goal-setting dashboard is also available for residents to set realistic goals and track their health achievements.



Dance UP Programme To Support Residents To Live Well In The Community

Dance UP is a community dance and movement programme launched by Yishun Health in February 2022 that incorporates healthy activity with engagement between residents in North Singapore. Led by trained volunteers, the programme comprises weekly sessions of evidence-based exercises that focuses on lowering participants' risk of frailty and falls, and maintaining cognition and functional abilities. Apart from dance, the sessions also include stretching, conditioning, and mobility exercises to improve participants' balance, posture, mood, and confidence. Currently, there are four runs weekly in Yishun and Sembawang, led by 10 community dance leaders.

ENHANCING SCREENING IN THE COMMUNITY

Development Of AI Melanoma To Screen And Detect Skin Cancer

Melanoma, considered the most aggressive form of skin cancer, has the potential to spread extensively to various parts of the body if left undetected without treatment. Currently, diagnosis of melanoma is done via manual screening by a dermatologist, followed by an invasive biopsy for high-risk cases. Dr Lucinda Tan, consultant dermatologist at the National Skin Centre (NSC), together with scientists from the Agency for Science, Technology and Research (A*STAR) Institute for Infocomm

Research (I2R), have co-developed an artificial intelligence (AI) algorithm called Skai Pro to perform image analysis of skin lesions and assist in the screening and detection of melanoma. By utilising deep learning techniques and large datasets of annotated images, the product helps identify suspicious features and patterns that may indicate melanoma, and escalate these skin lesions to clinicians for early diagnosis and intervention.

Enhanced Capacity For Osteoporosis Screening

The National Healthcare Group Diagnostics' (NHGD) mobile bone mineral densitometry (BMD) initiative supports osteoporosis screening in primary care and community settings, monitoring bone health, facilitating early interventions, and contributing





to a paradigm of care focused on promoting a healthier population. To further enhance accessibility for residents living in Central and North Singapore, NHGD introduced two static BMD services at its X-ray centres in Yishun Polyclinic and Ang Mo Kio Thye Hua Kwan Hospital in June and February 2023, respectively. The BMD service at Yishun Polyclinic is equipped with a patient hoist system, ensuring a safe and comfortable transfer experience for both wheelchair users and staff.

NHGD also completed a cross-calibration of all four BMD machines in their service in May 2023. This enables accurate comparison of bone mineral density measurements taken by each machine, resulting in higher diagnostic confidence in the reporting radiologists.

Roll-Out Of HIV Self-Testing Pilot Programme

In Singapore, most newly-diagnosed human immunodeficiency virus (HIV) infections are detected during clinical care and typically at a late stage of infection, with a very low proportion diagnosed from self-initiated testing. According to the National HIV Testing Recommendations, every adult aged 21 years and above should be tested at least once in their lifetime, regardless of risk factors, and people at higher risk of HIV infection should be tested more frequently. To complement the existing testing modalities, the National HIV Programme (NHVP) under the National Centre for Infectious Diseases (NCID) introduced the HIV Self-Testing (HIVST) Pilot Programme in August 2022. With HIVST, NHVP aims to increase access to testing services,



The patient hoist provides safe and comfortable transfers from wheelchair to BMD table.

and encourage individuals at risk to be tested and seek early treatment if they obtain a positive result. Under the pilot, individuals can purchase HIV self-testing kits from the Department of Sexually Transmitted Infections Control (DSC) Clinic and Action for AIDS (AfA), and test for HIV in the privacy of their homes by using a swab to collect their oral specimens.

As of 31 December 2022, over 650 HIVST kits were sold to over 350 unique buyers. Preliminary data showed that the HIV self-test kits were safe, easy to use, and facilitated take-up among first-time testers.

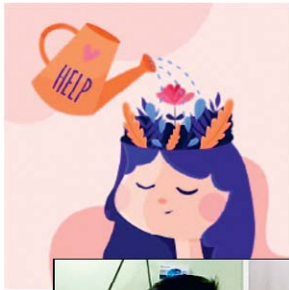
ENABLING HEALTH TOGETHER

Engaging Seniors In Conversations On Future Healthcare Needs

In December 2021, Medical Social Workers from the TTSH Community Health Team (CHT) piloted a four-session programme called “Preparing for Your Future Healthcare Needs” to engage seniors in the community. Each session used group work to encourage participants to review their life values, personal beliefs, care goals, and preferences, and incorporated pre-planning tools on Advance Care Planning and Lasting Power of Attorney to facilitate discussions on real-life scenarios, such as end-of-life and health crises.



Stress, Anxiety and Depression: Why is it important to understand them?



Mental health plays a crucial role in:

- Relationships
- Physical Health
- Curbing Suicide Rates
- Productivity and Financial Stability



RESTRICTED, SENSITIVE-NORMAL



Conducted in collaboration with two local Active Aging Centres (AACs) in Central Singapore, the programme had six runs, with 55 seniors completing the programme. Pre-and post-evaluation of participants showed an overall increase in self-reported awareness of personal values and preferences, confidence in discussing future healthcare needs, and knowledge of pre-planning tools. Eighty-nine per cent of the participants also created a formal Advance Care Plan (ACP) with the group facilitators.

Workshops On Addressing Emotional Distress

From April to May 2022, three NHGP psychologists – Mr Tan Ee Xuen from Sembawang Polyclinic, Ms Goh Hui Ting from Woodlands Polyclinic, and Ms Jeanette Yeo from Yishun Polyclinic – participated in a three-part series of skills-based workshops on mental health and effective communication with distressed individuals. Catered for TOUCH Community Services' Home Care staff, the sessions also

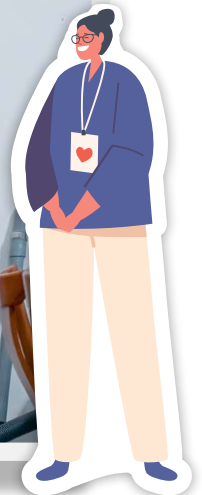
featured psychologists from other organisations and focused on tips to identify possible signs of emotional distress among individuals in the community and to communicate effectively with them.

Roll-Out Of Alcohol Related Frequent Attenders (ARFA) Programme

To address increasing alcohol-related visits to the hospitals in Singapore, Khoo Teck Puat Hospital (KTPH) launched the

Alcohol Related Frequent Attenders (ARFA) programme in 2020. Under the programme, the ARFA workgroup, comprising a doctor, nurses, and social workers trained in Assertive Community Treatment, manages patients according to a harm reduction approach, with an aim for abstinence. Patients who are enrolled in the programme are followed up over a period of six months, with weekly visits in the first two months.

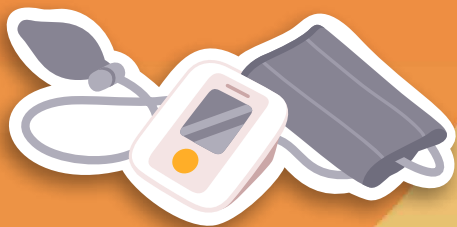
With the support of the Institute of Mental Health (IMH)'s National Addictions Management Service (NAMS), the programme was subsequently rolled out in TTSH, Singapore General Hospital (SGH), and Ng Teng Fong General Hospital (NTFGH). To-date, the programme has recruited more than 100 patients from the Emergency Department (ED) of these hospitals and has achieved a success rate of 58 per cent, with success being defined as a 25 per cent or more reduction in the number of ED visits. Additionally, the ARFA programme tracks improvement in patients' social parameters such as attaining new employment, having stable housing, and completing the NAMS detoxification programme.



Living With Illness



NHG continues to work on bringing care closer to home. By raising health literacy, activating community partners, and leveraging innovation and technology, we hope to empower our residents with chronic conditions to lead fulfilling lives.







LIVING WITH ILLNESS



LIVING WITH ILLNESS

BOLSTERING CARE IN THE COMMUNITY

CONNECT PLUS

Knee osteoarthritis is a progressive condition, in which symptoms can present early before the need for surgical intervention. Although surgical intervention is common and surgical sites mostly recover without complications, these do not address the underlying risk factors. To enhance care for seniors with knee osteoarthritis, NHG partnered community care providers, such

as St Luke's ElderCare (SLEC) on the Collaborative Model of Care between Orthopaedics and Allied Healthcare Professionals (CONNECT Plus) programme.

The 12-week programme aims to address these underlying issues — weight management and appropriate physical activity, paired with diet counselling and physical therapy, to slow down the progress of knee osteoarthritis. A first in Singapore, CONNECT Plus focuses on maximising rehabilitation outcomes and optimising non-surgical treatment for affected



individuals in the community. Since its implementation in May 2021, 96 patients have benefitted from the CONNECT Plus programme and have shown improved clinical outcomes, such as reduced pain and increased physical activity levels. Other outcomes include a reduction in hospital visits and improvements in productivity among patients.

HbA1c Point-Of-Care Testing Kit
The HbA1c Rapid Analysis System, a point-of-care test (POCT) kit, was conceptualised in November 2022 by National Healthcare

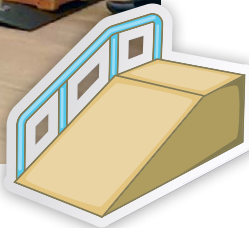
SG Diagnostics
Committed to Quality of Health

SG Diagnostics
(Biosense Affinity Chromatography)

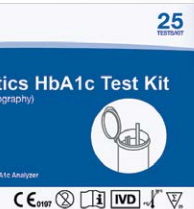


For use only with SG Diagnostics HbA1c





Group Polyclinics (NHGP) and SG Diagnostics, supported by Khoo Teck Puat Hospital (KTPH) and National Healthcare Group Diagnostics (NHGD), to bring diabetes management closer to patients. Designed to be portable and user-friendly, the POCT kit only requires a finger prick to obtain blood samples, with results attained within six minutes. The system has also obtained Health Sciences Authority (HSA) approval and has been piloted in NHG polyclinics since November 2023.



PROMOTING SAFE USE OF MEDICATION

Understanding Medication Non-Adherence Among Young And Older Adults

NHG's Health Services and Outcomes Research (HSOR) conducted a population-based survey in 2018 and 2019 on 1,528 residents living in Central and North Singapore, who were on long-term medication. Respondents were surveyed on their frequency and reasons for forgetting to take their medications (unintentional), deliberately missing a dose of medication (intentional), or adjusting it to suit their needs (intentional). Responses for young

adults (21-64 years old) and older adults (65 years old and above) were examined separately.

Non-adherence rates in young and older adults were 20.0% and 10.4% respectively, with a larger proportion of young adults reporting both unintentional (17.4% vs 7.8%) and intentional non-adherence (8.3% vs 3.5%). In analyses adjusted for respondents' socio-demographic characteristics and medical history, the presence of depressive symptoms was associated with higher odds of non-adherence in both young (odds ratio [95% confidence interval]: 3.0 [1.8, 5.0]) and older adults (4.2 [1.0, 7.5]).

Across both groups, the most common reasons for non-adherence were the fear of developing a drug dependence, forgetting to take their medication, and having issues with taking their medication at a specific timing (Table 1). However, older adults were more likely to report lack of understanding of medication labels as a reason. Understanding reasons and inclinations for non-adherence could guide strategies to ensure patients are able to take their medication as prescribed.

Medication Coach To Boost Health Literacy

Developed in July 2022, the Medication Coach project is a cross-institution effort between Tan Tock Seng Hospital (TTSH), NHGP, National Healthcare Group Pharmacy (NHGPh), and a tech collaborator (MeshBio) to co-develop a versatile modular Artificial Intelligence-Machine Learning engine, coupled with Optical Character Recognition and Computer

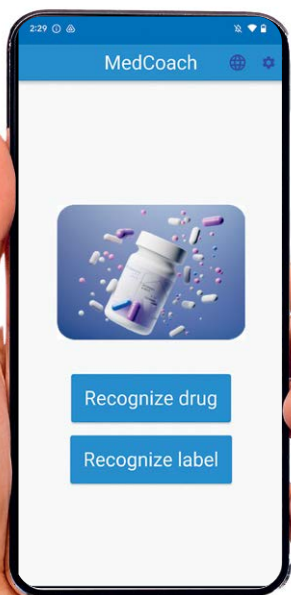
Table 1. The Top 3 Reasons Of Medication Non-adherence In Young And Older Adults

Reasons of medication non-adherence	Young adults (n=766)	Older adults (n=762)	p-value*
Afraid of developing drug dependence / worry about long-term effects	107 (36.4)	55 (32.4)	0.42
"I just forgot"	45 (15.3)	23 (13.5)	0.68
Had problems with taking medication at a specific timing	45 (15.3)	18 (10.6)	0.16

* Differences between groups were tested using Chi-square tests



LIVING WITH ILLNESS



Vision Technology. The team has achieved a proof-of-concept (POC) engine, which can identify medications by the medication packaging or drug instruction labels. It provides detailed comprehensive drug information (in the four national languages), drawing from a reliable source developed by pharmacists. This initiative aims to increase medication literacy for patients and reduces the risk of taking medication wrongly, towards better overall health outcomes.

New Counselling Service For Topical Corticosteroid Use

The National Skin Centre (NSC) Pharmacy launched the Enhanced Topical Steroid Counselling Service in October 2022 to help patients adhere to their treatment plans amid widespread steroid phobia. The service sees pharmacists or trained pharmacy technicians counselling patients on how topical steroids work, as well as on appropriate and inappropriate use of the drugs. In addition to preventing drug-related problems associated



with inappropriate topical corticosteroid use in chronic skin conditions, the service also educates patients on how to boost the efficacy of steroids and how these could be used to minimise flares. For further guidance, prescriptions are labelled with coloured stickers to indicate steroid strength.

STRENGTHENING PSYCHOSOCIAL SUPPORT ACROSS SETTINGS

Boosting Community-Based Mental Health Support For Youth

The Institute of Mental Health (IMH) has been collaborating with Ministry of Health (MOH) and the Agency for Integrated Care (AIC) to train Youth Community Outreach teams (CREST-Youth) and Youth Integrated Teams (YITs) to conduct mental health screening and assessment for youths since 2020. In 2023 and 2024, the focus will be on developing a standardised national training curriculum to be used with youths who have mild to moderate mental health conditions. This will be done using Community Health Assessment Team's (CHAT) mental

health screening and assessment curriculum for CREST-Youth and YITs, as well as the Supporting Youth in Community (SYiNC) training curriculum as reference.

SYiNC is a three-year President's Challenge-IMH pilot project, where IMH will partner and refer cases to four Social Service Agencies (SSAs), namely Club HEAL, Singapore Association for Mental Health, Singapore Children's Society, and TOUCH Community Services, providing evidence-based intervention and psychosocial support to youths aged between



13 and 19 with mild to moderate mental health conditions: (i) those whose needs are not severe enough to be admitted into IMH but who still require community support; and (ii) those who require care after discharge from IMH.

Integrating Mental Health Into Eczema Care

About a third of dermatology patients experience some degree of mental health struggles, which include depression or anxiety. This can in turn worsen patients' skin conditions or affect their compliance with treatment. Recognising the heavy mental health burden of eczema, a multidisciplinary team at NSC introduced an initiative in August 2022 to better identify eczema patients who may benefit from psychosocial interventions. This was part of a Clinical Practice Improvement Programme (CPIP) led by a doctor, supported

by a multidisciplinary team comprising members from Pharmacy, Clinic Operations, and Care & Counselling. Following the CPIP initiative, there are plans to make depression screening a part of clinic workflows, so that patients who need help can be identified early and referred to NSC's Psychodermatology Clinic.

One-To-One Patient Peer Support

The National Centre for Infectious Diseases (NCID) launched a pilot one-to-one patient peer support programme between August 2022 and July 2023, to enhance the socio-emotional coping of patients living with HIV. Since its inception, three patient peer leaders have been recruited and a few patients have agreed to participate in the programme. The programme is jointly led by NCID's Care and Counselling department and HIV Programme.



OPTIMISING RESOURCES FOR VALUE-ADDED CARE

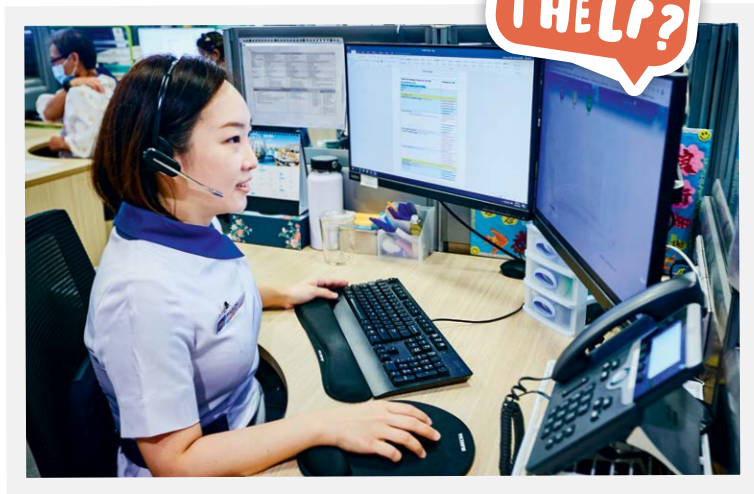
Telehealth & Integrated Network (THINK) Centre

For patients who have been discharged from a hospital stay, transiting home may sometimes be challenging. To support them on their journey to recovery, Yishun





LIVING WITH ILLNESS



GOING 3D

In November 2022, TTSH officially launched the Medical 3D Printing Centre. Equipped with more than 10 machines, the centre enhances patient care and medical education through the creation of surgical jigs, anatomical models, and prostheses. Meeting diverse and unique needs of patients, it developed Singapore's first 3D-printed nose prosthesis for a patient who had skin cancer on the nose, a functional 3D-printed finger prosthesis for a patient who lost his last finger in an accident, and cranial caps for patients who have undergone craniotomy.

Health launched the Telehealth & Integrated Network (THINK) Centre in November 2020.

THINK Centre is a nurse-led service, which augments Yishun Health's existing hospital-to-home programme and supports post-discharge patients who do not require home visits and can be supported through telephone calls. It provides a supportive framework that includes health status monitoring, patient enablement, and case management. Through its 24/7 tele-triage hotline, THINK Centre staff direct patients to accessible, appropriate, and timely care.

As such, the centre facilitates appropriate utilisation of healthcare resources at the system level, by reducing unnecessary Acute & Emergency Care attendances for non-emergency scenarios, freeing capacity for those who need it more, and ensuring that patients who develop serious adverse events seek timely and appropriate care. THINK Centre has since managed a total of 4,769 patients as of July 2023.

Cancer Care Line

The Cancer Care Line, operationalised at TTSH in October 2022, is a phone service that allows cancer patients to receive timely advice

from oncology-trained nurses on their symptom-related enquiries during clinic operation hours. Nurses can make referrals to other healthcare professionals, such as dietitians and medical social workers, to support patients' cancer treatment, where required.

This service is focused on educating and empowering patients with self-care skills, and improving turnaround time for timely symptomatic management without the need to escalate queries to doctors. With this channel, unnecessary visits to the ED could be reduced while facilitating necessary urgent emergency care.

NSC Pharmacist Clinics Reduce Patients' Out-Of-Pocket Costs In Chronic Disease Management

NSC Pharmacist Clinics, which bring together clinical pharmacists and specialists to co-manage chronic dermatology patients, was introduced in 2021 to improve care and optimise healthcare resource utilisation. These clinics review patients who have chronic stable eczema, mild acne, mild urticaria,



and mild psoriasis, as well as eczema patients newly-initiated on dupilumab therapy, and acne patients stable on isotretinoin treatment. Collaborative practice agreements have been established to ensure consistent, high-quality care delivery.

Since its launch, Pharmacist Clinics have demonstrated improvements in healthcare manpower resource allocation. Clinical pharmacists assess patients, engage them in shared decision-making on treatments, prescribe medications, and monitor for efficacy and adverse effects. As a result, each Pharmacist Clinic consultation opens up one dermatology specialist appointment for complex cases. This interprofessional co-management care model has reduced patients' out-of-pocket payments by about 45 per cent.

By the end of FY2022, the clinical pharmacists co-managed a total of 82 patients, with Patient Reported Outcome Measures (PROM) at Pharmacist Clinics similar to those at dermatologist clinics. Patient Reported Experience Measures (PREM) — that includes patient satisfaction with the care experience — were also positive.

Nurse-led Service For Oncology Care

The Oncology Care Service at TTSH led by Specialty Nurse Clinicians delivers holistic, integrated supportive care across the oncology care continuum. The care team includes surgeons,



oncologists, nurses, and allied health professionals, who collectively oversees the progress and identify patients' unmet needs to facilitate seamless continuity of care and interventions for complex head and neck cancer cases. The chairside and tele-reviews of this service started in September 2021, with clinic sessions operationalising in October 2022. Services include pre-chemotherapy counselling, symptoms review, post-treatment follow-ups, and Advance Care Planning (ACP) discussions for patients undergoing chemotherapy treatment.

Minimally Invasive Surgical Therapy (MIST) For Benign Prostatic Hyperplasia

The Urology department at KTPH introduced Minimally Invasive Surgical Therapy (MIST) — REZUM therapy — for Benign Prostatic Hyperplasia (BPH) in 2021, and since

2022, a full suite of MIST with the addition of Prostatic Urethral Lift (UroLIFT) has been made available. These low-morbidity procedures allow patients to be discharged on the same day and negate the need for frequent follow-ups, without medication side effects such as postural hypotension and sexual dysfunction.

Furthermore, these procedures can be performed under local anaesthesia, and thus, are suitable for patients who are unfit for general anaesthesia. By the end of 2022, 18 patients with BPH had experienced MIST without major complications. Importantly, all patients showed improvement in their lower urinary tract symptoms and urinary flow rate. These outcomes were comparable to standards reported in landmark publications.



SINGAPORE PRIMARY CARE CONFERENCE 2023

Held in March 2023, the inaugural Singapore Primary Care Conference (SPCC) 2023 covered a spectrum of topics relevant to primary care practice. Themed 'Strength in Unity: New Frontiers in Primary Care', the hybrid conference was co-organised by NHGP, the College of Family Physicians Singapore,

National University Polyclinics, and SingHealth Polyclinics.

Attended by more than 700 participants, the event featured four plenary lectures, five symposiums, and pre-conference workshops. A polyclinic learning visit was also organised for General Practitioners to gain a

better understanding of the multidisciplinary team-based approach for the delivery of patient care. Another key component of the conference was the research competition, which saw NHGP clinch six out of the top nine prizes under the Oral and Poster Presentation categories.

Crisis and Complex Care



NHG is integrating health and social care seamlessly through growing partnerships with the community as our ageing population's needs become more complex. Our Institutions are continuously seeking to provide safe, quality, and reliable care, and leveraging research and technological advancements to drive better outcomes for our residents in Central and North Singapore.







CRISIS AND COMPLEX CARE



CRISIS AND COMPLEX CARE



TRANSFORMING CARE PROCESSES

Transformative Musculoskeletal Care Model

Musculoskeletal (MSK) cases, especially non-traumatic ones, are often seen in Tan Tock Seng Hospital (TTSH)'s Emergency Department (ED), contributing to increased patient load and long waiting times. In 2022, approximately 15 per cent of patients visiting the TTSH ED presented with MSK issues, and this figure is projected to grow with the ageing population. To address this demand, TTSH physiotherapists introduced a first-of-its-kind MSK care model in June 2022, which involves collaboration between the ED, Orthopaedic Surgery, Hand Surgery, Radiology, and Physiotherapy departments. Under this new care model, specially-trained Advanced Practice Physiotherapists (APPs) see patients directly after registration and triage. Working alongside ED doctors, APPs help manage acute musculoskeletal injuries and spinal pain, and prescribe medical imaging, as well as escalate potentially life-threatening conditions like heart attacks masquerading as MSK conditions. These result in better patient outcomes.

The MSK care model has resulted in increased patient satisfaction by reducing the wait time to see a doctor, more timely care interventions, and better cost savings for patients. The average length of stay in the ED for patients with MSK conditions has also decreased by 30 per cent. Efficiency in the ED has increased as doctors can focus on more life-threatening emergencies, such as stroke, major trauma, and cardiac arrest. This approach has also empowered physiotherapists

to take on an advanced scope of practice, thereby increasing job satisfaction.

Redesigning Care With Therapy-Assistant 1-on-1 Programme

The Therapy-Assistant (TA) 1-on-1 (TA101) programme in TTSH, introduced in 2018, features upskilled TAs reviewing select patient groups independently with oversight from physiotherapists.



The TA101 programme was piloted at the subacute recovery ward between 2018 and 2019, and demonstrated positive productivity outcomes. This freed up time for the physiotherapists to focus on complex cases and perform at their highest competencies. The programme also resulted in significant cost savings of 53.6 per cent for patients when they were reviewed by a TA as compared to a physiotherapist for the same care. In April 2022, the programme was expanded to all inpatient wards.

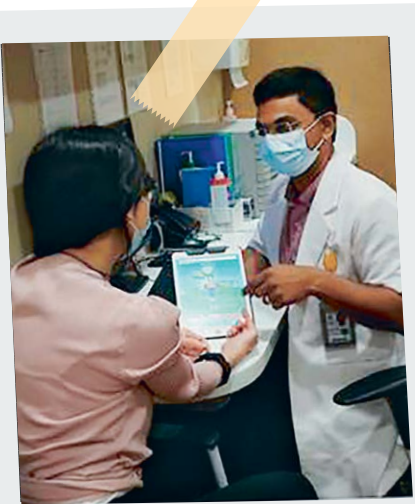


Revolutionising Cardiac Rehabilitation With *Heart-Track™*

Cardiac Rehabilitation (CR), which emphasises exercise training and heart health, plays an important role in patients' recovery after undergoing coronary bypass surgery. Launched in August 2019 by TTSH during the COVID-19 pandemic, *Heart-Track™* is the first digital prescription and monitoring system revolutionising CR delivery. Leveraging wearable technology, a mobile application, and gamification principles, it enables CR to be carried out safely and effectively in the comfort of a patient's home, while maintaining a high level of personalised care. Based on data collected between 2019 to 2022, *Heart-Track™* showed a significantly higher completion rate of CR sessions of 70.6 per cent as compared to the traditional method of 58.8 per cent. It also demonstrated improved patient effort tolerance, which is reflected in the six-minute walk test distance ($p=0.02$) as compared to the traditional group ($p=0.26$).

Ambulatory Care In Emergency Surgery (ACES) Programme

The Ambulatory Care in Emergency Surgery (ACES)



programme was implemented in June 2022 at Khoo Teck Puat Hospital (KTPH) to manage patients with uncomplicated general surgical conditions amenable to conservative treatment. These include conditions, such as uncomplicated diverticulitis, colitis, gastritis, suspected Mallory-Weiss tear, and biliary colic. ACES aims to reduce inpatient admission, implement early review and decision by senior clinicians, and early discharge within 24 hours. Under ACES, suitable patients are admitted to the Emergency Department Treatment Unit (EDTU) and upon discharge, they will be followed up within three days by

by the Telehealth & Integrated Network (THINK) Centre via a phone consultation, whereby any issues encountered will be reported to the General Surgery team. Outpatient investigations and procedures may also be arranged directly from EDTU without the need for a separate clinic visit, streamlining processes and improving patient and staff experience.

Comparing data between pre-ACES (June 2021 to May 2022) and post-ACES (June 2022 to June 2023), results showed that there was a significant reduction in the length of stay (LOS) from 35.3 hours (pre-ACES) to 19.9 hours (ACES), and 78 per cent of ACES patients were discharged within 24 hours compared to 31 per cent of patients pre-ACES. ACES patients also had decreased gross patient bills. There was no significant increase in both the seven-day ED revisit rate and 30-Day ED readmission. These results have shown that emergency surgical ambulatory care with a focus on early discharge and outpatient care is a safe and effective system that helps to reduce the length of stay, utilisation of hospital beds, and saves cost for suitable patients.



CRISIS AND COMPLEX CARE

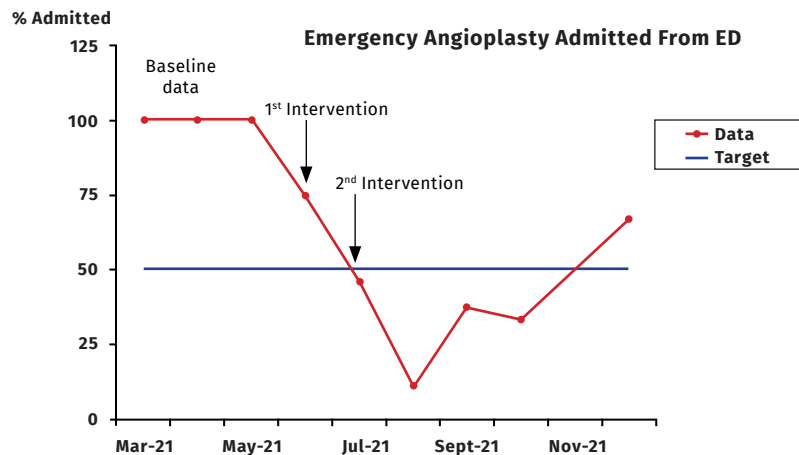
DAVINCI Project

KTPH sees an average of 10 to 15 admissions to the ED per month due to End Stage Renal Disease (ESRD) patients with haemodialysis access issues, leading to emergency procedures, inpatient dialysis slots, and inpatient stays. This results in increased costs to patients and the institution. In June 2021, KTPH introduced the Dialysis access Vascular Intervention Improving Outcome with Timely Evaluation And Management (DAVINCI) project to reduce ED admissions for ESRD patients with haemodialysis access dysfunction by 50 per cent over a one-year period. This initiative involved a dedicated KTPH team collaborating with National Kidney Foundation (NKF) centres in the Northern region of Singapore to establish a referral criteria and protocol within an elective outpatient setting for early detection, smooth communication with early intervention, and discharge back to the dialysis centre. Within nine months of implementation, the project achieved more than 50 per cent reduction in ED admissions, more than 170 hospital admission days saved, and cost savings of close to \$230,000. The project is currently being expanded to include private dialysis centres across the Northern region of Singapore.

MANAGING INFECTIOUS DISEASE OUTBREAKS

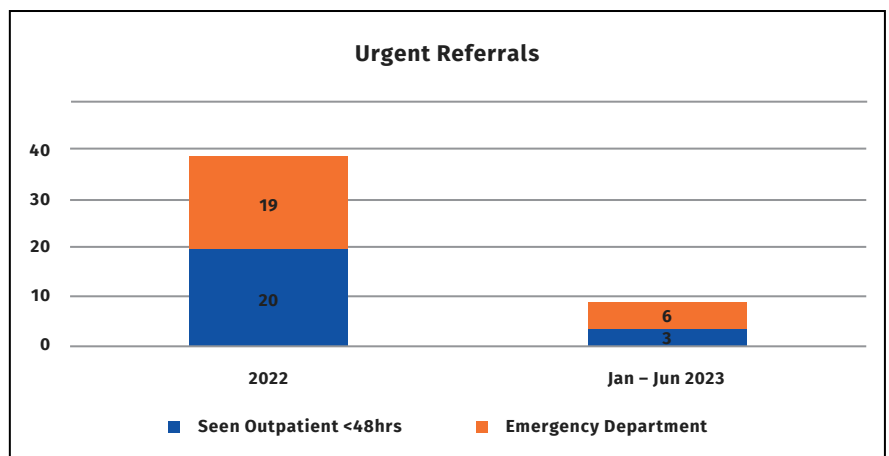
Ramping Up Of COVID-19 Isolation And General Ward Beds

There were three major COVID-19 waves in 2022 — the Omicron BA.2 subvariant in March, Omicron BA.4 and BA.5 subvariants in July, followed by the XBB variant in October and November. These waves —



	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21
ED	8	8	10	6	6	1	3	3	3	6
DaVinci	0	0	0	2	7	8	5	6	3	3
ED admission/Total Referral (%)	100	100	100	75	46	11	37.5	33	50	67

Emergency Admissions For Dysfunctional AV Access



Total Urgent Referrals Via DaVinci Pathway

coupled with patients who were not eligible for the Home Recovery Programme (HRP) due to complex comorbidities — created a high demand for isolation beds and facilities. In response to the surge in demand for bed capacity, the National Centre for Infectious Diseases (NCID) and TTSH ramped up available COVID-19 general ward and isolation beds. These beds were made available at NCID, TTSH, and TTSH Communicable Disease Centre (CDC) 2, as well as COVID-19 Treatment Facilities (CTF) sub-acute wards at Ren Ci Community Hospital. Multiple stakeholders across NCID and TTSH worked together to

operationalise the ramp-up plans, including ensuring infrastructure and IT readiness, smooth patient journey, and clinical service delivery from admission to discharge and/or decant, and efficient turnover of inpatient beds post-patient discharge.

Management Of Mpox Cases

Singapore reported a total of 19 confirmed mpox cases in 2022, of which 16 cases were treated in NCID's isolation ward and two cases were managed as outpatients in NCID's Clinic J under the swab-and-isolate or home recovery protocols. These protocols were jointly developed by





SURGICAL ENHANCED RECOVERY ASSISTANT (SERA) FEATURE IN THE NHG CARES APP

The user acceptance testing for the Surgical Enhanced Recovery Assistant (SERA) feature in the NHG Cares app was held in December 2022. The feature provides patients who are undergoing colorectal surgery with educational resources and personalised tasks for pre- and post-operation care to ensure they are well prepared for the procedure. The SERA feature was piloted in Q3 2023 for patients undergoing colorectal surgery, and would be customised for other surgery types in the future.

NCID and Ministry of Health (MOH), which are currently the default management pathway for mpox, along with national guidance on the assessment and management of patients for mpox.

In May 2022, NCID's Clinic J received the first suspected mpox case and subsequently reviewed more than 40 suspect cases by 31 December 2022. Suspected



mpox cases were admitted to NCID for isolation and screening for mpox. Following MOH's policy change in August 2022, suspected mpox cases seen in Clinic J Special Precaution Area were assessed for suitability to be discharged home or to Mpox Isolation Facilities while pending their PCR swab results.

NEW CARE MODELS FOR BETTER MENTAL HEALTH

IMH-SKH Collaboration To Improve Patient Care

In December 2022, the Institute of Mental Health (IMH) and Sengkang General Hospital (SKH) signed a Memorandum of Understanding (MOU) to enhance cross-institutional psychiatric and medical capabilities, provide efficient medical access for IMH inpatients, and collaborate on education, innovation, and research. The MOU aims to help optimise care for IMH's inpatients, as well as help both hospitals streamline care processes, optimise the use of healthcare resources, and elevate clinicians' skillsets. Under the MOU, Internal Medicine consultants from SKH run clinics twice a month at IMH, which cuts down the need for IMH inpatients to be sent to another hospital for specialist outpatient appointments, thus saving time and resources. A phone consultation service with SKH Internal Medicine consultants is also available for IMH's medical team for more urgent patient needs. Several programmes to improve access to specialist services for IMH inpatients have also been implemented, including fast-track orthopaedic consultation for minor trauma, direct-access



radiological services for ultrasounds and Computed Tomography (CT) scans of the brain, and email and phone consultation services for cardiology advice and doubtful electrocardiograms (ECGs) for patients with heart conditions.

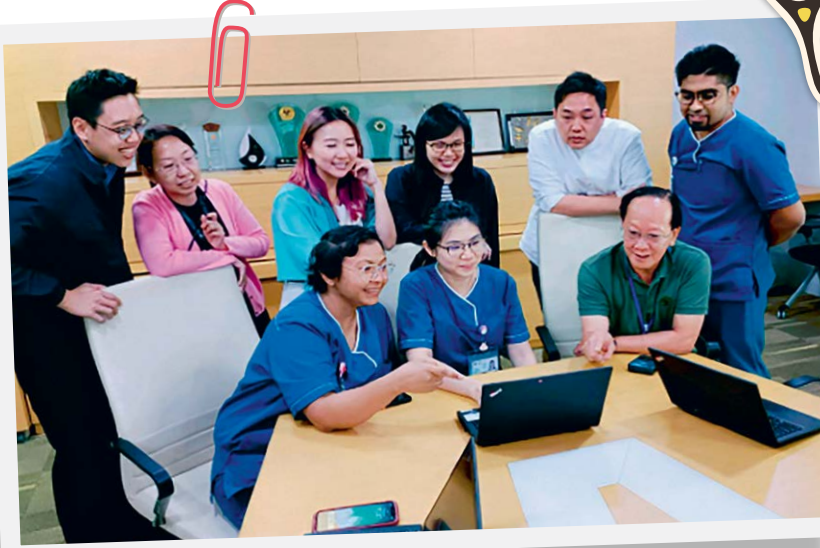
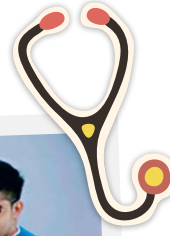
IMH and SKH will also work on cross-institutional training to build up manpower capabilities on both sides to provide holistic care for patients with medical and psychiatric needs. One example is the Care & Response training conducted by IMH for SKH staff on the management of patients with disturbed behaviour, to enable better management of IMH patients upon admission to SKH.

Coordinated Care With Adult Disability Homes

Adult Disability Homes (ADHs) often have difficulty managing and caring for residents who have developmental disabilities and severe behavioural issues, and typically send such residents to IMH's emergency services. In March 2022, IMH's Medical Social Work department collaborated with Thye Hwa Kwan Sembawang



CRISIS AND COMPLEX CARE



A total of 225 patients took part in the programme, with results showing improved treatment engagement, better medication adherence and clinical outcomes, and significantly reduced readmission rates, as well as outpatient default rates. Feedback from the recovering individuals, their caregivers, and community partners also showed that they felt well-supported during the post-discharge period. IMH is currently running TCP in four wards, with plans for expansion across the hospital in the future.

RESEARCH FOR BETTER POPULATION HEALTH

Transforming Vascular Health Programme

To build research intensity and capability in metabolic health, NHG Group Research supported the establishment of the Transforming Vascular Health programme led by TTSH in collaboration with Lee Kong Chian School of Medicine (LKCMedicine) in January 2023. The programme aims to stratify individuals at risk of vascular complications to identify suitable interventions and prevent or delay the onset of disease progression. It involves two complementary arms:

- The discovery arm will study biomarker-based risk stratification, vascular inflammation, and vascular phenotyping.
- The translation arm will focus on the implementation of risk scores, methods for risk stratification, and personalised interventions.

To-date, patient recruitment has commenced, and the first research visit was successfully held in August 2023.

AI Tool To Identify High-Risk Frequent Admitters And A&E Users

Current methods for identifying frequent admitters (FAs) or accident and emergency (A&E) users are typically developed using patient data, and often over-estimate

(THK-S) Home to introduce the Care Coordination Project, which involves tight case coordination via a new care coordination framework and regular case discussions for such residents to improve their care outcomes, reduce their hospital admissions, and increase referral acceptance. Based on a study between March 2022 and March 2023 and a review conducted in December 2022, the Care Coordination Project showed significant improvements to these patients' care outcomes, with a reduction in IMH emergency attendance of 42 per cent and admission rates of 39 per cent for patients residing in THK-S. When admitted to IMH, the length of stay for these patients was also shortened by 39 per cent, and the readmission rate within 30 days decreased from 6 per cent to 0 per cent. The results indicate more effective management of these patients' treatment and better reintegration into the community.

Transitional Care Programme To Bridge Inpatient And Community Care

IMH piloted the Transitional Care Programme (TCP) from May 2022 to March 2023 to bridge the gap

between inpatient and community care for patients with mental health conditions requiring more intensive and home-based support immediately after discharge. The TCP leverages on the formulated care plan and therapeutic relationship with the inpatient team to engage and support the recovering patients upon discharge. Under the programme, patients assessed to have moderate to high post-discharge transitional needs will receive interventions over six months in three phases:

- Pre-discharge phase: Engagement emphasises rapport-building and needs assessment in the ward.
- Post-discharge phase: Interventions, including symptom and medication management, psychosocial rehabilitation, and caregiver support, are carried out via regular home visits by IMH and a community partner, telephonic support, and clinic visits.
- Disengagement phase: The patient and caregiver are prepared for the transfer of care from TCP to community psychiatric services.

Table 1. Top Predictors Used In AI Models

Frequent hospital admissions		Frequent A&E visits	
Predictor	Relative importance	Predictor	Relative importance
Electronic frailty index — No. of deficits	1.000	No. of A&E visits with no admissions in previous one year	1.000
No. of unplanned acute hospital admissions in the previous one year	0.645	No. of P3 A&E visits in previous one year	0.952
No. of ICD10AM disease subcategory (primary diagnosis) in the previous one year	0.364	No. of doctors seen in previous one year	0.278
Elixhauser readmission score	0.306	No. of AHRQ multiCCS level 1 (primary diagnosis) in previous one year	0.231
Hospital frailty risk score — High risk	0.238	Male, age 6 to 40	0.212
No. of A&E visits in the previous one year	0.162	Frequent user of A&E in previous one year	0.144
Total length of stay for all acute hospital admissions in the previous one year	0.148	No. of AHRQ multiCCS level 2 (primary diagnosis) in previous one year	0.137

A&E: Accident and Emergency; ICD: International Classification of Diseases; AHRQ: Agency for Healthcare Research and Quality; multiCCS: multi-level Clinical Classification Software; P3: Priority 3; P4: Priority 4.

risk among general residents. To address this, NHG's Health Services and Outcomes Research (HSOR) Department used artificial intelligence (AI) to identify NHG residents at high risk of frequent hospital admissions and A&E visits in the following year to implement targeted interventions to reduce their likelihood of such admissions and visits.

The training dataset comprised NHG residents alive at the end of 2019, while the testing and validation dataset comprised residents alive at the end of 2020 and 2021, respectively. FAs were

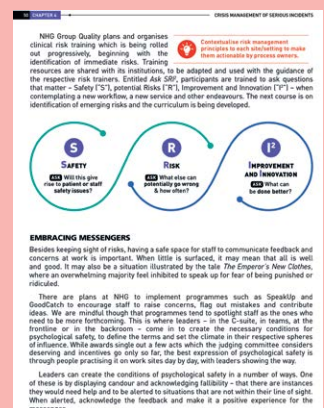
identified based on three or more admissions, and frequent A&E users were identified based on three or more A&E visits within a year to TTSH or KTPH. Demographics, comorbidities, economic status, risk factors, care predictors, disease severity, and historical healthcare use were used to construct an AI model each for FAs and frequent A&E users, through data training, optimisation, and validation.

Among approximately 1.4 million NHG residents, 4,062 (0.27 per cent) were FAs and 2,221 (0.15 per cent) were frequent A&E

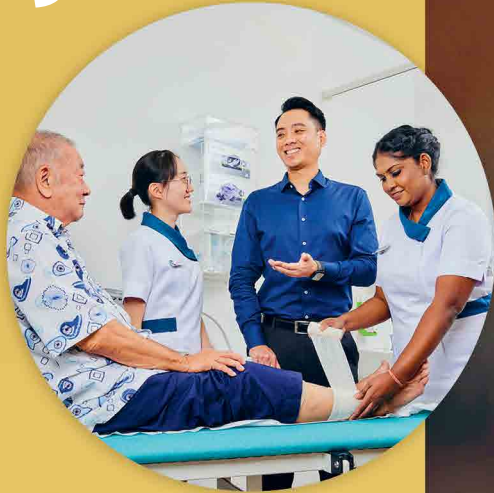
users. With HSOR's AI models, selecting the top 10,000 residents with the highest risks would identify 1,697 FAs and 799 frequent A&E users using included predictors (Table 1). Without the AI models, only 27 FAs and 15 frequent A&E users would be identified in a random selection of 10,000 residents. These AI models can therefore help healthcare providers to reduce the likelihood of frequent hospital admissions or A&E visits through targeted interventions, thus lowering healthcare costs and improving health outcomes.

EQUIPPING STAFF WITH CRISIS PREPAREDNESS

In May 2022, NHG Group Quality published the *Crisis Management of Serious Incidents* book to better equip staff with the knowledge and skills to handle crises. It captures valuable learnings and illustrates the collaboration between NHG and Institutions in the management of two serious incidents. Perspectives and contributions of the crisis team leads and Quality leaders are also featured, highlighting areas where NHG can further enhance patient safety.

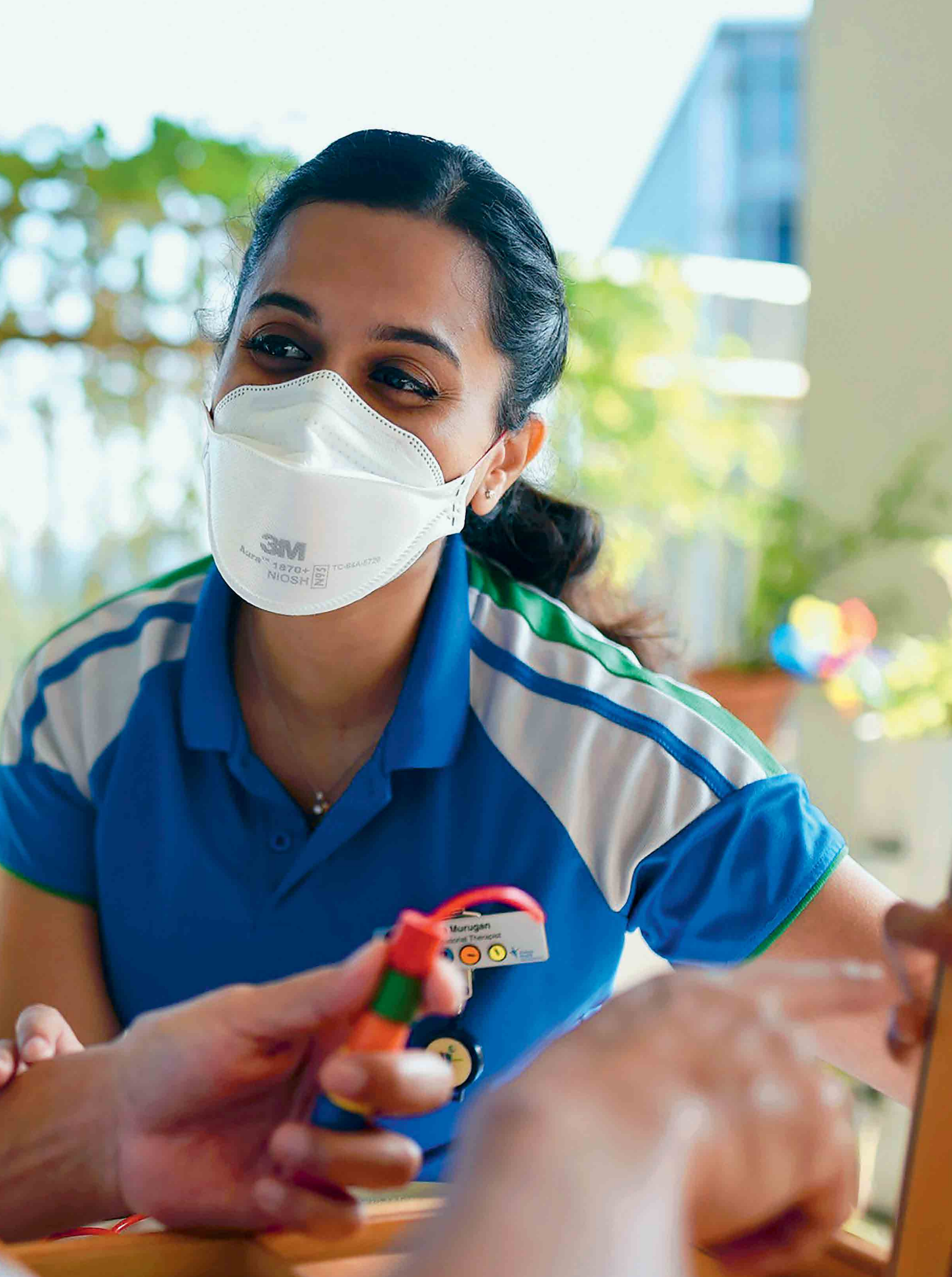


Living With Frailty



NHG is dedicated to identifying and empowering both the pre-frail and frail population, to ensure quality of care for our seniors. By closely collaborating with our Institutions, we are proactively driving preventive care and capacity-building in the community, as well as integrating health and social services to meet the complex care needs of our elderly population.







LIVING WITH FRAILTY

LIVING WITH FRAILTY

DIGITAL WELLNESS AND HEALTHCARE INITIATIVES

Active Ageing Feature In NHG Cares App

An Active Ageing feature was released in conjunction with the launch of the NHG Cares app in the first quarter of 2023. The feature allows residents, especially those above the age of 60, to ascertain their Critical Frailty Score (CFS) after completing an Active Ageing questionnaire within the app, which in turn will help determine their overall well-being. Based on an individual's CFS score, a customised lesson plan will be tailored accordingly. This innovative approach aims to empower senior residents to make informed lifestyle adjustments, while setting achievable goals for active ageing.



CommFit By Woodlands Health

Despite the increasing prevalence of frailty in Singapore, public awareness of this health condition remains limited. In March 2023, Woodlands Health (WH) introduced CommFit, a multi-faceted programme designed in accordance with the recommendations of the National Frailty Policy workgroup. CommFit specifically targets Woodlands residents at risk of frailty, are pre-frail or moderately frail, or who have developed symptoms of frailty. Its multidimensional interventions include frailty assessments, exercise advice, nutrition education, caregiver



I didn't know that I was at risk of frailty before joining the programme. I joined to gain more knowledge — such as exercise and diet recommendations. This has been very helpful. I have been following my health coach's advice and attending the exercise sessions regularly. I have also cut down on my sugar and oil intake as recommended."

Madam Fatimah Binte Arib
WOODLANDS HEALTH COMMFIT PARTICIPANT

support, medication reviews, home environment assessments, and referrals to other services.

ENHANCING NUTRITION AND CARE FOR PATIENTS

Dysphagia Friendly Foods

Dysphagia is a condition characterised by swallowing difficulties, where patients typically require modifications to the consistency of fluids and texture of foods they consume to





ensure safe swallowing and prevent complications, such as pneumonia, from arising. Speech therapists play a crucial role in assessing patients with this condition. In October 2022, to increase food options for dysphagia patients in the community, organic health food retailer Green Capsule Organics sought the professional counsel of speech therapists from Tan Tock Seng Hospital (TTSH) to test and advise on food preparation methods for consumers to prepare their own dysphagia-friendly version of the YOUMEIRICE Instant Brown Rice Porridge. With the right preparation methods, the product can be made suitable for individuals recommended the “Level 5 Minced and Moist” diet, or less modified textures, in accordance to the International Dysphagia Diet Standardisation Initiative (IDDSI) framework. To better inform consumers, Green Capsule Organics has plans to incorporate this new knowledge into its product packaging.

Enhancing Frailty Care Through The Frailty Ready Hospital Framework

Since the expansion of TTSH's Framework for Inpatient Care of the Frail Elderly (FIFE) to the Frailty Ready Hospital (FRH) workstream in FY2019 within the Central region of Singapore, the hospital has made significant strides in improving frailty care. This comprehensive approach includes the validation and alignment of a Clinical Frailty Scale (CFS-FAST) for use in the hospital and TTSH's community health teams, developing effective frailty interventions that include inpatient oral protocols and expansion of delirium care bundle to more wards, as well as reviewing discharge planning processes for better patient transitions back to the community. TTSH's commitment to building a culture of frailty-readiness is also



reflected in its Frailty Education Series launched in 2022, with talks on frailty screening and care bundles, plus initiatives to engage staff on the concept of frailty.

Subacute Frailty Care Unit

The Subacute Frailty Care Unit (SFCU) was established in November 2022 by the TTSH Department of Geriatric Medicine. With its focus on managing senior individuals with complex medical needs, both with and without rehabilitation needs or social issues, but no longer necessitate acute ward care, SFCU is well-equipped to conduct comprehensive geriatric assessments to improve patient outcomes, reduce avoidable admissions, restore function, and develop individualised discharge plans with links to relevant community services. To-date, SFCU has trialled initiatives on frailty care and prevention, including a virtual museum tour in collaboration with occupational therapists and the National Heritage Board, as well as oral frailty care, developed in conjunction with dental and nursing teams.





LIVING WITH FRAILTY

ADVANCEMENTS IN RESEARCH AND FRAILTY

Mobility, Frailty, And Falls Programme

NHG is making inroads into shifting the frailty curve, reducing adverse outcomes of frailty, falls, and functional decline – and thus, reducing healthcare costs due to ageing – with its efforts in Mobility, Frailty, and Falls research programme. Led by TTSH, the programme focuses on screening through deep phenotyping and risk stratification of the population, prevention of disease through a comprehensive understanding of social and health behavioural factors, and interventions through pilot trials for novel individualised approaches.

Research programmes, such as MMF, are supported by the Rehabilitation Research Institute of Singapore (RRIS) and the Palliative Care Centre for Excellence in Research and Education (PaLC). RRIS is jointly established by NHG, Nanyang Technological University (NTU), and the Agency for Science, Technology, and Research (A*STAR), while PaLC is a collaborative effort in palliative care research and education between NHG, Dover Park Hospice, and NTU.

Humanitude By Yishun Health

As part of Yishun Health’s commitment to becoming an age-friendly hospital, staff are trained using a special care methodology to foster greater connectedness between healthcare providers and patients. Named Humanitude, this relationship-based approach has shown qualitative improvement in the patient experience, boosted care outcomes, and instilled more dignity and compassion into care delivery, particularly for vulnerable and dependent persons. The goal



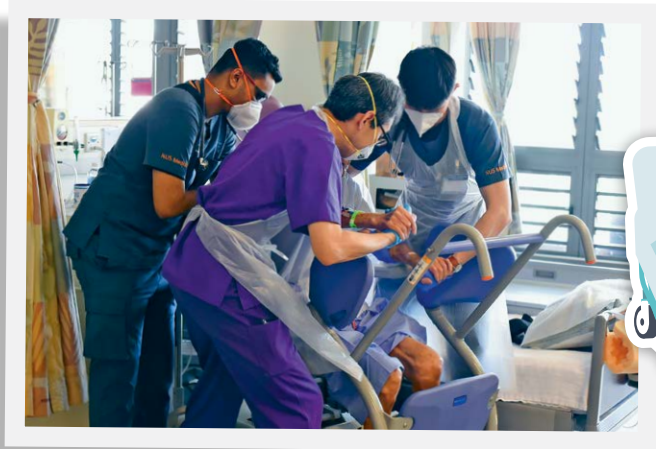
is to progressively train 500 staff, with greater participation from doctors and allied health professionals. With Humanitude, better patient outcomes can be expected.

Humanitude seeks to shift the care delivery paradigm from one that is task-oriented to building care that is relationship-based and enabling. It emphasises sensory communication, where caregivers make use of gaze, speech, touch, and verticality (an upright position) when interacting with patients – elements often missing in the lives of older people with frailty and dementia, as they are usually left in bed or chairs with minimal human contact.

Multicomponent Frailty Interventions At The Emergency Department

The Emergency Department Interventions for Frailty (EDIFY) programme reduces the number of potentially avoidable acute admissions, shortens the length of stay, and improves health-related quality-of-life (HRQOL) and functional outcomes in older persons above the age of 85 pending acute hospital admissions at TTSH, through early review from geriatric experts.

Patients aged 65 years or older, with Clinical Frailty Scale (CFS) scores between 4 to 6 (vulnerable to moderately frail), pending discharge from TTSH’s Emergency Department (ED) were systematically assigned to EDIFY or standard-care, according



to their week of ED presentation. HRQOL was measured using self-reports over the course of six months. Among 140 participants (EDIFY = 70; standard-care = 70), 87 participants (EDIFY = 44; standard-care = 43) had complete data and were analysed. After adjusting for baseline HRQOL levels and relevant factors, there were higher gains in quality-adjusted life years (QALY) for EDIFY as compared to standard-care (see Figure 1). Additionally, participants with CFS scores of 4 and 5 appeared to have higher gains in QALYs as compared to those with a CFS score of 6 (both $\beta=0.13$, 95% confidence interval= 0.06, 0.20).

Early geriatric specialist interventions at the front-door of acute hospitals via the EDIFY programme have shown potential to improve quality-of-life outcomes of frail older adults awaiting ED discharge. Treatment effects could possibly be enhanced using a frailty-targeted approach where interventions are targeted at patients in their early stages of (pre) frailty, with CFS scores of 4 and 5.



EMPOWERING NURSES FOR ENHANCED CARE

First Intermediate Long-Term Care (ILTC) Nurse Training

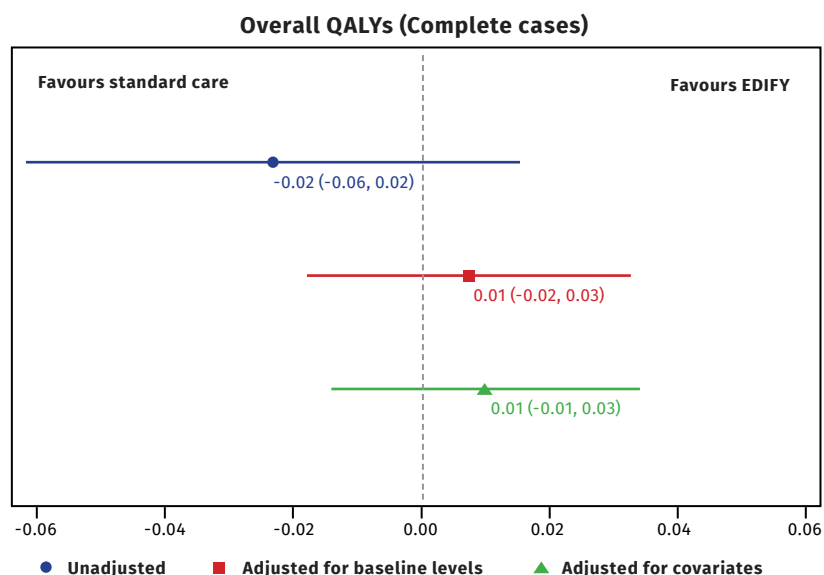
Driven by an ageing population with new needs for competent dermatology providers in a range of care settings, the Nursing team at National Skin Centre (NSC) launched the very first Basic Dermatology Nursing Course for Intermediate Long-Term Care

(ILTC) nurses in 2022, accredited by the National Nursing Academy.

In 2022, nurses from NSC conducted four sessions of the course to upskill 35 participants from ILTC organisations. The one-day course equipped ILTC nurses with essential knowledge and skills to provide safe and competent care to residents with common skin conditions of mild to moderate severity.

Nurses learnt about the basic structure and functions of skin, identifying the differences between normal and abnormal changes in skin, and common dermatology terminology. They also learnt the skills required to perform basic skin assessment, as well as the techniques of topical application, wet wrap therapy, and scabies management.

Figure 1. Overall QALYs Gained (β And 95% Confidence Interval) By EDIFY As Compared To Standard Care



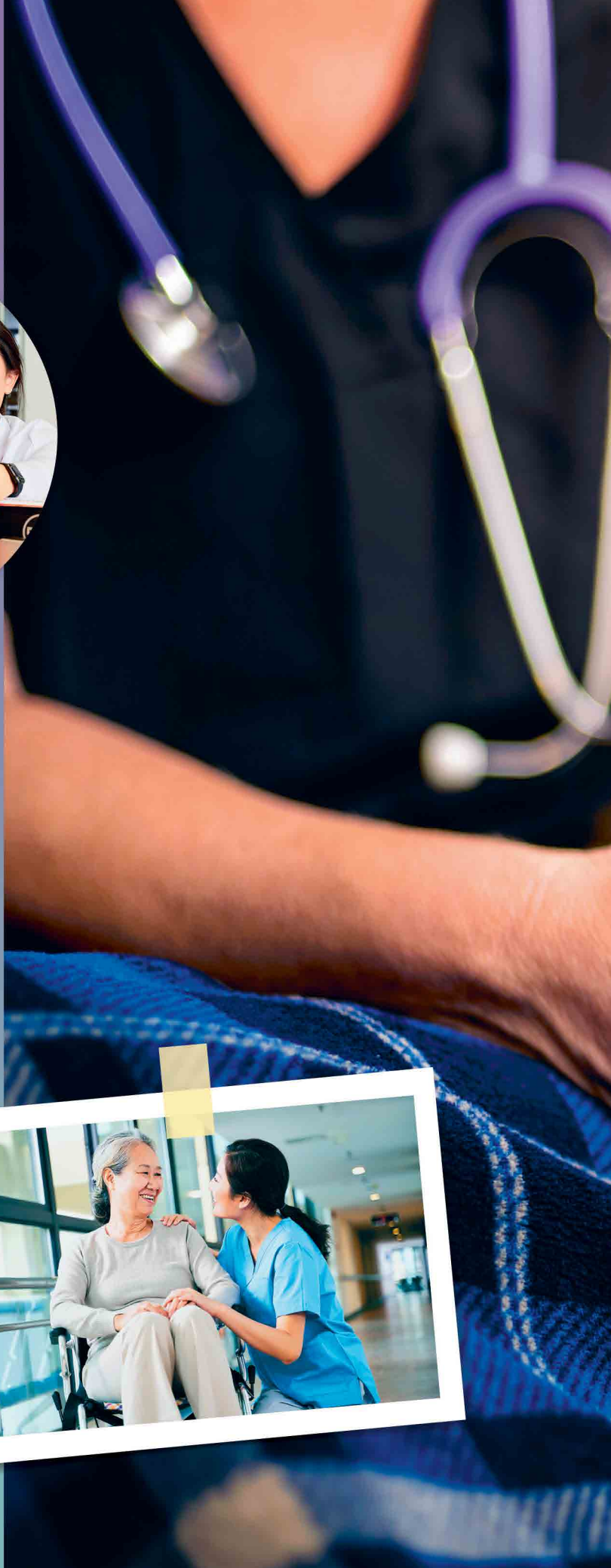
Forest plot of the estimated QALYs gained by EDIFY. Each symbol represents the effect size of a model, with the horizontal line indicating the 95% confidence interval.



Leaving Well



NHG is committed to fostering greater acceptance and accessibility of End-Of-Life (EOL) care within the community. Together with our Institutions, we are striving towards ensuring comprehensive support for residents in Central and North Singapore in their EOL journey through a diverse range of initiatives.







LEAVING WELL

IMPROVING QUALITY OF LIFE THROUGH COLLABORATION

Collaboration With Nursing Homes On EOL Care

For more than a decade, NHG has been collaborating with nursing homes (NHs) to enhance end-of-life (EOL) care. This partnership aims to improve the quality of life and care for NH residents with palliative care needs, allowing them the dignity of spending their final days comfortably in a familiar environment. The teams involved in this collaboration include Central Health's Project CARE, Yishun Health's GeriCare@North, and Woodlands Health's Nursing Home Supportive Care. Tailored to meet specific needs of each NH, the partnership encompasses screening and identification, Advance Care Planning (ACP) discussions, care management, capability building, and post-death review. In FY2022, NHG linked up with 15 of the 33 NHs in its region, and over 99 per cent of NH residents had their treatment preferences honoured, with more than 76 per cent being able to pass on in their preferred location.

NHG is actively working to extend this model to the other NHs, which is part of a cross-cluster effort to develop a common training curriculum that includes palliative care, among others, as well as to streamline

training and education to be rolled out in late 2024.

ACP Team At Woodlands Health

In FY2022, Woodlands Health (WH) collaborated with multiple community partners and stakeholders to engage and educate residents on various health causes and initiatives. An ACP team was also established to cultivate a culture of ACP within and beyond WH. The team organised a series of informative talks, workshops, and outreach booths, as well as advocacy training to promote the importance of ACP. It also supported patients, families, and staff members in the development of advance care plans that align with their values and preferences.

Predicting Mortality: The Prognostic Model For End-Stage Lung Disease (PRO-MEL)

Patients with end-stage lung disease (ESLD) experience a heavy burden of respiratory and psychosocial symptoms, but often do not receive timely referrals to palliative care as accurate prognostication is challenging. In view of this, NHG's Health Services and Outcomes Research (HSOR) developed a prognostic model for one-year all-cause mortality in ESLD to support clinicians in identifying patients at a high risk of deterioration, facilitating recommendations for recognition of unmet needs,



and earlier referrals to palliative care.

This was a retrospective cohort study that included patients with a recorded ESLD diagnosis in Tan Tock Seng Hospital (TTSH). Of the 1,000



“**One elderly lady shared that she was the closest to her husband as they had no children. However, she was also concerned about her husband's health, as his memory was failing each day. Through this conversation, our team was able to broach the topic of ACP and how it could help her and her husband navigate a medical emergency when one is incapable of making decisions.**”

Woodlands Health ACP team AT THE WORLD CANCER DAY CARNIVAL



BOOSTING WELL-BEING CREATIVELY



Art And Music Therapy At The End-Of-Life

Art and Music Therapy serve as unique outlets for patients to address their physical, emotional, and psychological needs. Patients benefit from refocusing their attention on aspects of life beyond their illnesses — be it through creating art or immersing themselves in music. This experience provides them with a sense of agency as well as helps alleviate physical symptoms, such as pain and breathlessness.

With the support from donors, the Department of Palliative Medicine at TTSH launched two programmes — an Art Therapy programme, The HEaling ART (HEART), in October 2017, and a Music Therapy programme, MUSic therapy at the End of life (MUSE), in April 2019.

In 2022, TTSH embarked on a three-year research study, supported by Temasek Foundation, to evaluate the impact of Music and Art Therapy on patients admitted under three clinical specialties — Palliative Medicine, Geriatric Medicine, and Rehabilitation Medicine. As of 31 October 2023, 190 participants have enrolled in this study. Hospitalised patients eligible for the programme receive either music or art therapy interventions, and the study team tracks improvements in their symptom control and quality of life, with the goal of using the results to showcase the benefits of these Creative Arts therapies and incorporating them as part of chargeable standard care. In doing so, the team hopes to effect a sustainable provision of Art and Music Therapy to patients warded in TTSH.

patients studied, 122 (12.2%) passed within a year. The patients either had a diagnosis of chronic obstructive pulmonary disease or emphysema (55%), bronchiectasis (38%), or interstitial lung diseases (12%). The final model included predictors such as diagnoses of interstitial pulmonary disease, cancer or cerebrovascular disease, use of long-term oxygen

therapy, being underweight, and more (see table below).

The model effectively differentiates between patients who passed on from those who survived (area under curve: 0.76), and will be adapted as a decision support tool to provide clinicians with prognostic estimates for each patient, as well as enable the prioritisation of high-risk patients for holistic needs assessments.

Prognostic Factors For Mortality In ESLD

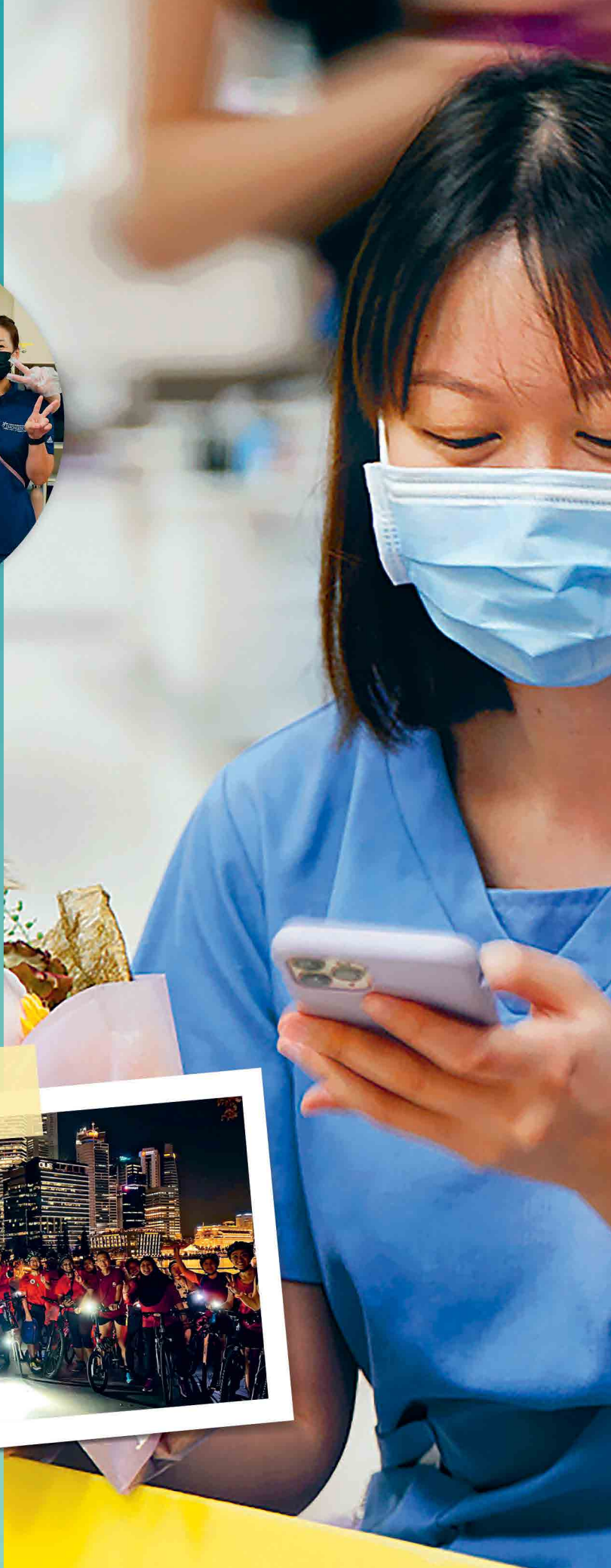
Factor	Odds ratio (95% confidence interval)*
Diagnosed with interstitial pulmonary diseases, yes vs no	3.65 (2.02, 6.58)
Ever started on long term oxygen therapy, yes vs no	4.69 (1.82, 12.08)
Most recent Body Mass Index <18.5, yes vs no	3.06 (1.79, 5.24)
Require assistance with at least 1 Activity of Daily Living, yes vs no	2.63 (1.45, 4.75)
History of specialist outpatient visits in 6 months prior, yes vs no	0.43 (0.27, 0.69)
History/presence of cancer, yes vs no	3.43 (1.70, 6.94)
History/presence of cerebrovascular disease, yes vs no	2.83 (1.28, 6.23)

* Adjusted for age, gender, and ethnicity. A prognostic factor of an odds ratio exceeding 1 is associated with higher odds of mortality, while a factor of an odds ratio below 1 is associated with lower odds of mortality.

Our People



Our people are the most important part of NHG. Even as we continuously endeavour to grow and develop our workforce, we are committed to improving the well-being of all staff, creating a Happier, Healthier NHG Family to serve our population well.







OUR PEOPLE



OUR PEOPLE



TOGETHER WE GROW

iConnect@NHG

iConnect@NHG, a cloud-based platform developed using SAP SuccessFactors, was launched in April 2023, enabling some 22,000 staff across NHG to perform Human Resource (HR) tasks, such as medical, transport, leave, and other work-related claims, anywhere and at any time. The implementation of iConnect@NHG was done in partnership with Synapse, SAP, and IBM, which ensured the process was carried out smoothly and effectively, with minimal disruptions.

Designed to make HR transactions convenient for staff by providing a user-friendly interface that is easily accessed via mobile devices, iConnect@NHG improves staff efficiency and experience, and supports

Healthier SG, which may require staff to be deployed into the community.

The success of iConnect@NHG is a significant milestone for NHG, as it demonstrates the organisation's commitment to innovation and digital transformation. This new platform will enhance staff productivity and satisfaction, allowing our people to focus on their core responsibilities, resulting in better patient care.

Expanding Career Pathways For Staff

In February 2022, the NHG Allied Health Career Framework Committee was formed to develop the NHG Allied Health Professional (AHP) Career Development Framework. The framework strives to provide clearer articulation of the attributes and contributions of AHPs and AHP support staff,

in order to promote professional development planning, evaluation, and career progression. Key highlights include the inclusion of four core pillars with 11 aspects of allied health professional practice into the framework and enhanced role of Therapist Assistants, empowering them to embark on a wider range of career paths and opportunities.

As part of the on-going Ministry of Health's (MOH) Jobs, Skills and Training initiative, job redesign efforts were also undertaken for our support care staff (SCS). The aim is to enhance their career value proposition, creating opportunities for SCS to directly contribute and support in multidisciplinary patient care. This involves redesigning roles to encompass both administrative and clinical tasks, thus bolstering staff's potential for better and lifelong career advancement.

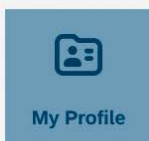
Announcement Tools

Better Health for Our Population

Healthier You • Healthier SG



Frequently Used





Commitment To Caring For Our Nurses

The NHG Nursing Council implemented an initiative in August 2023 that refrains from the rostering of nurses' work schedules based on a PAPA work-shift pattern. Nurses are conventionally scheduled on a PAPA work-shift pattern for the manning and provision of our 24-hour healthcare system. Where 'AM' and 'PM' denotes 'morning' and 'afternoon', respectively, PAPA is an acronym to describe an 'afternoon-morning-afternoon-morning' work-shift pattern over four consecutive days. The initiative is based on the outcomes of a 2022 pilot in an inpatient unit

of Khoo Teck Puat Hospital (KTPH) that did away with the PAPA work-shift pattern. Results showed no negative impact on manpower manning of healthcare system on-site. The roll-out of the initiative provides more opportunities for nurses to have sufficient rest time, as well as alleviates the stresses of an increasingly challenging clinical environment. Ultimately, this would contribute to better work-life harmony.

Centralised Recruitment Approach For NHG Group Nursing

In FY2022, learning from the successful experience of the Nursing & Human Resources (HR) team at Woodlands Health

(WH), NHG Group Nursing and Group HR co-organised a NHG Centralised Recruitment Approach (NHG CRA) in Malaysia by establishing constructive relationships with nursing colleges and universities in the country. NHG provided nursing students from Malaysia with employment opportunities at NHG Institutions upon their graduation, via direct engagement through virtual learning camps, webinars, and NHG Nursing Townhalls. As of March 2023, 230 Malaysian nursing students have indicated their interest in joining NHG Institutions upon their graduation between 2023 to 2027.





OUR PEOPLE



PARTY



NHGHQ DINNER & DANCE FY2022: CHILDHOOD MEMORIES

In March 2023, more than 520 guests including NHG Board Members, Senior Management, and staff, attended the NHGHQ FY2022 Dinner and Dance (D&D). This D&D was the first where all guests could mingle and celebrate in-person after more than three years of battling the COVID-19 pandemic.

Nursing Internship And Transition To Practice

The NHG Nursing Internship workgroup was formed in January 2023 to work on initiatives that address issues relating to the recruitment of nurses and their transition to practice in their first year at NHG. For a start, the workgroup convened the NHG Nursing Student Council, a platform that provides a collaborative space for nursing students sponsored by NHG

Institutions to contribute to the development of their nursing education and experience across the cluster. The workgroup has reached out to more than 10 secondary schools and junior colleges. NHG Group Nursing would also host the first NHG Nursing Open House in 2024 to engage students planning to further their studies at ITE, polytechnics or universities, with the aim of drawing them to NHG to build their nursing career.

TOGETHER WE CONNECT

NHG Bonding Activities

The NHG Bonding Activities (NBA) serves to foster staff bonding, inter-organisational relations, and a collaborative culture among NHG Institutions. In FY2022, the NBA organising committee co-organised three events with NHGHQ and Institutions, namely "Stronger Together" Night Cycling, Walk • Run • Cycle Movement, and candle-making workshops. A total of 1,500 NHG staff across the cluster, and their families, participated in the activities and the feedback received on these was very positive overall.

NHGHQ Charity Carnival 2023

NHG held its Charity Carnival in January 2023, after a two-year hiatus due to the COVID-19 pandemic. The fun occasion saw some 250 Senior Management and staff coming together to raise funds for the local charity, Free Food For All (FFFA). Themed 'Rejuvenating Reunions', the Carnival featured 16 stalls, including games such as ring toss





and *capteh*; a pop-up café named *Quali (Tea) & Coffee*; a cotton candy bar; homemade *popiah*; and Chinese calligraphy. National Healthcare Group Pharmacy (NHGPh) won the Top Fundraiser Award for its ‘Pharmily Store’ booth, while NHG Group Research won the Most Popular and Best Decorated Booth for its ‘Down the Memory Lane’ stall. The Carnival raised about \$15,000, which was matched with a \$10,000 donation from NHG.



TOGETHER WE CARE

Boosting Workplace Mental Health

The Staff Well-being Committee (SWC) Co-Funding Scheme continues to drive pioneering initiatives towards better staff mental health and wellness, to create a happier and more engaged workforce in NHG.

The beneficiaries of the second SWC Co-funding Scheme, launched in FY2022, were Yishun Health, Institute of Mental Health (IMH), National Skin Centre (NSC), and NHGHQ, who demonstrated dedication towards building a thriving and resilient NHG community.

Yishun Health’s “Spice Up Your Mental Health” initiative promoted

staff camaraderie and bonding through healthy cooking activities, while IMH piloted an “External Online Counselling Service”, an anonymous hotline to assist employees in need. NSC organised a “Mental Well-being Week”, in collaboration with the Health Promotion Board (HPB) and Singapore Association of the Visually Handicapped, which fostered staff engagement through fun and relaxing activities. NHGHQ initiated the “Mental Wellness Initiative” to equip employees with useful tools to seek help and support for mental health matters.

Staff Protection Against Abuse And Harassment

At NHG, we take a zero-tolerance stance on all forms of abuse and harassment of staff. Our commitment towards fostering a safe and

respectful work environment is embodied through a series of purposeful initiatives, and by harmonising policies and practices across all NHG Institutions. By doing so, we ensure consistency and clarity in addressing staff concerns, and provide a supportive culture for incident reporting.

We have standardised reporting channels and escalation protocols, making it easier for individuals to voice their concerns. We have refined our framework to better manage staff grievances and escalation processes, prioritising confidentiality and clear consequence implementation. We equip our staff by investing in training and development, to enable them to protect themselves against potential abusive situations. Looking ahead, NHG will adopt a standardised zero-tolerance policy towards the abuse and harassment of healthcare workers in any form using the Protect, Prevent, and Promote framework.





OUR PEOPLE



Employee Climate Survey

Through regular Employee Climate Surveys, NHG seeks to hear, understand, and empathise with our employees' needs, preferences, challenges, and concerns regarding their roles, work environment, and work relations. In view of employees' increasing need to have time for improved well-being and self-care, wellness days and birthday off-in-lieu were introduced, among other initiatives.

NHG United Campaign

Launched in February 2023, NHG United is a ground-up movement led by NHG Resident Council to encourage a culture of appreciation and to build a community of CARE (Compassion, Appreciation, Respect, and Equality) across the cluster. These acts of appreciation are shown through the sending of special WhatsApp stickers ('Thumbs Up') and NHG United e-cards ('Kudos'), as well as



profiling members of the NHG community on NHG Education's social media platforms ('Humans of NHG').

TOGETHER WE CELEBRATE

NHG Awards 2022

The NHG Awards took place in October 2022, where a total

of 132 awards, comprising 113 individuals and 19 teams, was given out to recognise impactful contributions in the areas of clinical, operations, education, and research. A one-off award, NHG Team Recognition Award for COVID-19, was also bestowed to 13 teams that provided significant support and contributions to NHG's collective response to the crisis.

A SMALL ACT OF THANKS CAN MAKE A BIG DIFFERENCE.

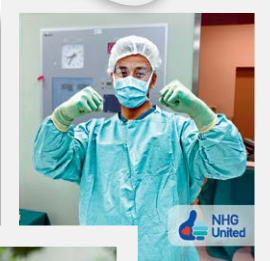


3 WAYS TO SAY "THANK YOU"



Towards a respectful, appreciative, caring and inclusive community for all in NHG

An initiative by the NHG Resident Council





Mr Tan Tee How, Chairman, NHG Board, graced the event as Guest-of-Honour and presented the most prestigious award, Lee Foundation – NHG Lifetime Achievement Award, to Associate Professor Ponnudurai Kuperan, Emeritus Consultant, TTSH, and Dr Chan Wai Lim William, Senior Consultant, TTSH.

NHG Recognised As A Top Employer

In an annual study conducted by *The Straits Times*, NHG ranked 75th among the top 250 employers in Singapore. In this study, Statista conducted anonymous surveys and online access panels to gather recommendations and evaluations from 17,000 employees about their employers. Employees were asked to score their willingness to recommend their employers to friends and family, as well as measure other metrics such as salary, work-life balance, potential for development, work environment, and reputation of their employer.

In another annual survey conducted by local graduate recruitment portal, gradsingapore,

NHG ranked 48th among the top 100 organisations desired as employers in Singapore. The survey involved more than 11,500 respondents from local universities and colleges. Employers were evaluated based on respondents' job applications to employers upon graduation, and the driving factors in the search for their first jobs. These factors included job-hunting attitudes, career resilience, and career expectations, as well as ethics and reputation.

NHG College Celebrates 20 Years

Faculty, partners, and staff of NHG College celebrated its 20th Anniversary in December 2022. Since its inception, NHG College has developed and introduced various capability-building initiatives and programmes to support NHG's key focus areas of leadership development, education and faculty development, and continuing professional development for our healthcare professionals. In FY2022, 2,612 participants attended 85 programmes offered by NHG College.



NHG WINNERS AT NATIONAL MEDICAL EXCELLENCE AWARDS (NMEA) 2022

National Outstanding Clinician Award:

Associate Professor Lim Poh Lian, Senior Consultant, Department of Infectious Diseases; Head, Travellers' Health and Vaccination Clinic, TTSH, and Director, High Level Isolation Unit, NCID.

National Clinical Excellence

Team Award: Community Health Assessment Team (CHAT), IMH.





Good Catch Award

Group Quality launched the Good Catch Award at the cluster level in March 2023. A “good catch” is defined the timely detection of unsafe acts that breaks the chain of events that could otherwise have led to harm or death. The Good Catch Award empowers staff to make care safer and better by encouraging them to proactively identify and prevent potential errors. This in turn nurtures a culture of continuous and collective learning, with Awardees being recognised at the annual NHG Quality Day.



Dr Hoi Shu Yin, Chief Nurse, TTSH, won the **President’s Award For Nurses 2023!**



AWARDS

Award Name	No. of awards
Accreditation Council for Graduate Medical Education (ACGME)-International Physician Educator Award	1
eMental Health International Congress - Innovation Leadership Award in eMental Health	1
International Hospital Federation (IHF) Awards 2022	3
Asian Hospital Management Awards 2022 - Infection Control Excellence (Gold Award)	1
World Innovation, Technology and Services Alliance (WITSA) Global Innovation and Tech Excellence Award 2022 - Innovative Ehealth Solutions Award (Public Sector) Runner Up	1

National Awards

Award Name	No. of awards
National Medical Research Council (NMRC) Talent Award	7
Singapore BioDesign (SB) Fellowship	1
President’s Award for Nurses 2022	2
Nurses’ Merit Awards 2022	31
Tan Chin Tuan Nursing Award 2022	2
Community Chest Awards 2022	3
Employee Experience Awards 2022 - HR Communication Strategy Category (Gold Award)	1
Singapore Association of Social Workers - Outstanding Social Worker Award	1
16 th Singapore Public Health & Occupational Medicine Conference Award (2 nd Place)	1
National Day Awards 2022	169
National Awards (COVID-19)	1,158
National Medical Excellence Awards	1
National Healthcare Innovation & Productivity Medal 2022	2
Workplace Safety & Health (WSH) Award 2022	2
Labour Movement U Safe Champion Award 2022	2
Distinguished Contributor Award for Clinical Research Coordinators 2022 (Finalist Award)	2
Singapore’s Best Employers 2022	1
Academic Medicine Education Institute (AMEI) Golden Apple Awards 2022	1
HR Excellence Awards 2022 - Excellence in COVID-19 Response (Gold Award)	1
AIC Community Care Excellence Awards 2022	28
National Safety and Security Watch Group (SSWG) Awards 2022	2
National Fire and Emergency Preparedness Council (NPEC) Fire Safety Excellence Award 2022	2
HMI Exemplary Healthcare Staff Award	2
Family Violence Dialogue Group (FVDG) Appreciation Award (Individual)	1
Biomedical Engineering Society (Singapore) 16 th Scientific Meeting (Gold Award)	1
Public Sector Transformation Awards 2022	3
Public Sector Transformation Awards – COVID dedicated cycle	7
Singapore Health and Biomedical Congress 2022	64

Tertiary Education Inst Awards

Award Name	No. of awards
LKCMedicine Special Recognition Award	15
Nanyang Education Award (College)	2
Nanyang Education Award (University)	1
NUS Yong Loo Lin School of Medicine (YLLSoM) Clinical Training Excellence Award (Department Award)	3
NUS Yong Loo Lin School of Medicine (YLLSoM) Clinical Training Merit Award (Department Award)	6
NUS Yong Loo Lin School of Medicine (YLLSoM) Dean's Honour Roll for Teaching Excellence	2
NUS Yong Loo Lin School of Medicine (YLLSoM) Dean's Award for Teaching Excellence	23
NUS Yong Loo Lin School of Medicine (YLLSoM) Junior Doctor Teaching Award	8

Award Name	No. of awards
NUS Yong Loo Lin School of Medicine (YLLSoM) Special Recognition Award	8
NHG-LKCMedicine Clinician Scientist Preparatory Programme (CSPP)	6
NHG-LKCMedicine Clinician Scientist Preparatory Programme Plus (CSPP+)	2
NHG-LKCMedicine Clinician Scientist Fellowship (CSF)	1
NHG-LKCMedicine Clinician Scientist Career Scheme (CSCS)	1
NHG CMTi Clinician Innovator Preparatory Programme (CiPP)	5

NHG Awards

Award Name	No. of awards
Sub-Category: NHG Recognition Awards 2022	
Lee Foundation - NHG Lifetime Achievement Award	2
NHG Distinguished Senior Clinician Award	5
NHG Distinguished Achievement Award	2
NHG Outstanding Citizenship Award	11
NHG Young Achiever Award	19
NHG Distinguished Contributor Award	1
NHG Team Recognition Award	13
NHG Team Recognition Award COVID-19	28
Sub-Category: NHG Quality Improvement Awards 2022	
Quality Improvement Award (Best)	8
Quality Improvement Award (Merit)	20
Quality Improvement Award (Junior Medical Doctors)	3
NHG Excellence In Action Award (Individual)	39
NHG Excellence In Action Award (Team)	11
NHG Exemplary Patient and Caregiver Award	4
Sub-Category: NHG Research & Innovation Awards 2022	
NHG Research Mentor of the Year Award	2
NHG Healthcare Innovation of the Year Award	2
NHG Research Impact Award	3
NHG Innovator of the Year Award	1

Award Name	No. of awards
Sub-Category: NHG Teaching Excellence Awards 2022	
NHG Education Leaders Award	5
NHG Inter-professional Teaching Award	13
NHG Outstanding Education Partners Award	6
NHG Teaching Award for Senior Doctors	48
NHG Teaching Award for Junior Doctors	24
NHG Outstanding Nurse Teachers Award	21
NHG Teaching Award for Nursing Preceptors	84
NHG Teaching Award for Pharmacy Senior Preceptors	9
NHG Teaching Award for Pharmacy Preceptors	5
NHG Teaching Award for Allied Health Senior Educators	13
NHG Teaching Award for Allied Health Educators	22
Sub-Category: NHG Development Awards 2022	
Health Manpower Development Plan (HMDP) (Leadership)	1
HMDP (Team-Based)	7
HMDP (Medical)	40
NHG Leaders Development Award	24
MOH In-Service Scholarship	40

APEX 2023 AWARDS

NHG and our Institutions clinched 10 awards across multiple channels at APEX 2023, the 35th annual US-based awards programme that recognises excellence in publishing. APEX received some 1,100 entries in 2023 from professional communicators worldwide.

NHG's print and digital publications, videos, and webinars continue to serve as channels for public education on health matters. They also provide insights into NHG's vision of *Adding Years of Healthy Life*, and the innovation, collaboration, and developments happening across our Institutions as we move towards a *Healthier SG*.



GRAND AWARDS

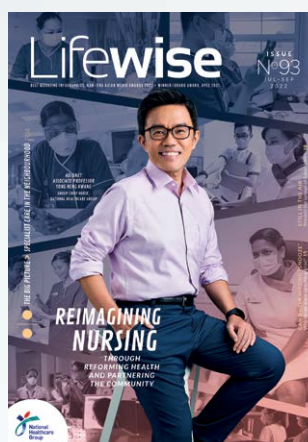
**Healthy & Delicious
Quick-to-Prepare**
- recipes -



 National Healthcare Group
Adding years of healthy life
www.nhg.com.sg

Newsletters

- *Transforming Primary Care* Issue 16 (2022) – NHGP
- *Transforming Primary Care* Issue 17 (2022) – NHGP
- *Together@NHG* (15 Apr 2022) – NHG



Magazines

- *Lifewise* Issue 93 – NHG
- *Lifewise* Issue 94 – NHG

Writing

Lifewise Issue 93
Reforming Health, Reimagining Nursing – NHG

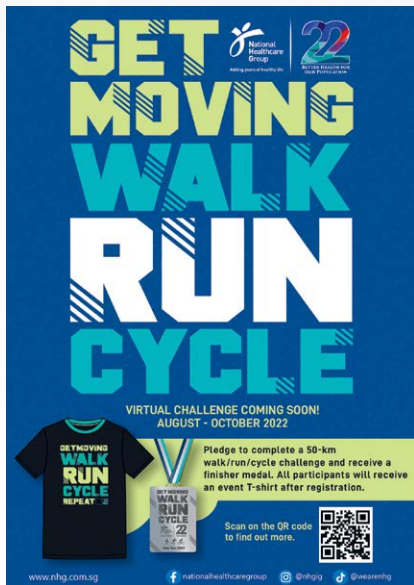
Electronic Media

NHG Healthy & Delicious Quick-to-Prepare Recipes – NHG and NHGP

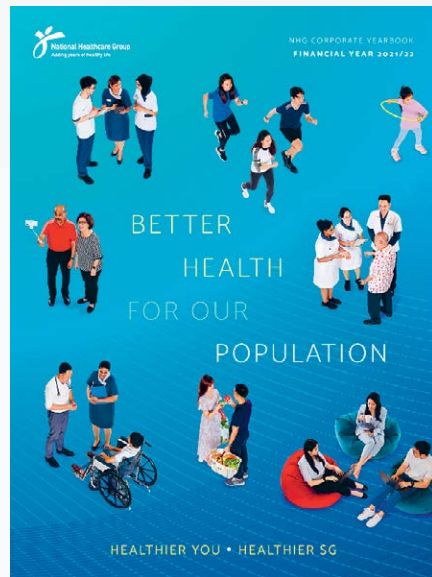
AWARDS OF EXCELLENCE



Design & Illustration
Better Health for Our Population



**Campaigns, Programmes & Plans –
Special Events & Meetings**
NHG Walk • Run • Cycle Movement



Annual Reports
NHG Corporate Yearbook FY2021



STATISTICS

WORKLOAD FIGURES



BED COMPLEMENTS

ACUTE & COMMUNITY HOSPITALS

Institutions: TTSH, NCID, KTPH, IMH & YCH

FY2022

4,896

FY2021

4,907



BED OCCUPANCY RATE

ACUTE & COMMUNITY HOSPITALS

Institutions: TTSH, NCID, KTPH, IMH & YCH

FY2022

96%

FY2021

89%



INPATIENT DISCHARGES

ACUTE & COMMUNITY HOSPITALS

Institutions: TTSH, NCID, KTPH, IMH & YCH

FY2022

117,548

FY2021

108,301



INPATIENT DAYS

ACUTE & COMMUNITY HOSPITALS

Institutions: TTSH, NCID, KTPH, IMH & YCH

FY2022

1,590,737

FY2021

1,491,927



AVERAGE LENGTH OF STAY

ACUTE HOSPITALS

Institutions: TTSH, NCID & KTPH

FY2022

8.3 days

FY2021

8.4 days



AVERAGE LENGTH OF STAY

IMH - SHORT STAY

Institution: IMH

FY2022

32.4 days

FY2021

33.7 days

IMH (long stay) for FY2022 is 594.7 days (FY2021: 594.3 days) and this relates to the average length of stay of long-staying patients who were discharged during the year.



AVERAGE LENGTH OF STAY

COMMUNITY HOSPITAL

Institution: YCH

FY2022

23.5 days

FY2021

18.9 days



DAY SURGERIES

Institutions: TTSH, KTPH & AdMC

FY2022

97,267

FY2021

92,585



SOC ATTENDANCES

Institutions: TTSH, NCID, KTPH, IMH, NSC & AdMC

FY2022

1,344,363

FY2021

1,271,968



A&E ATTENDANCES

Institutions: TTSH & KTPH

FY2022

245,840

FY2021

214,908



DAY REHABILITATION CENTRE ATTENDANCES

COMMUNITY HOSPITAL

Institution: YCH

FY2022

2,766

FY2021

2,149



POLYCLINIC ATTENDANCES

FY2022

2,541,966

FY2021

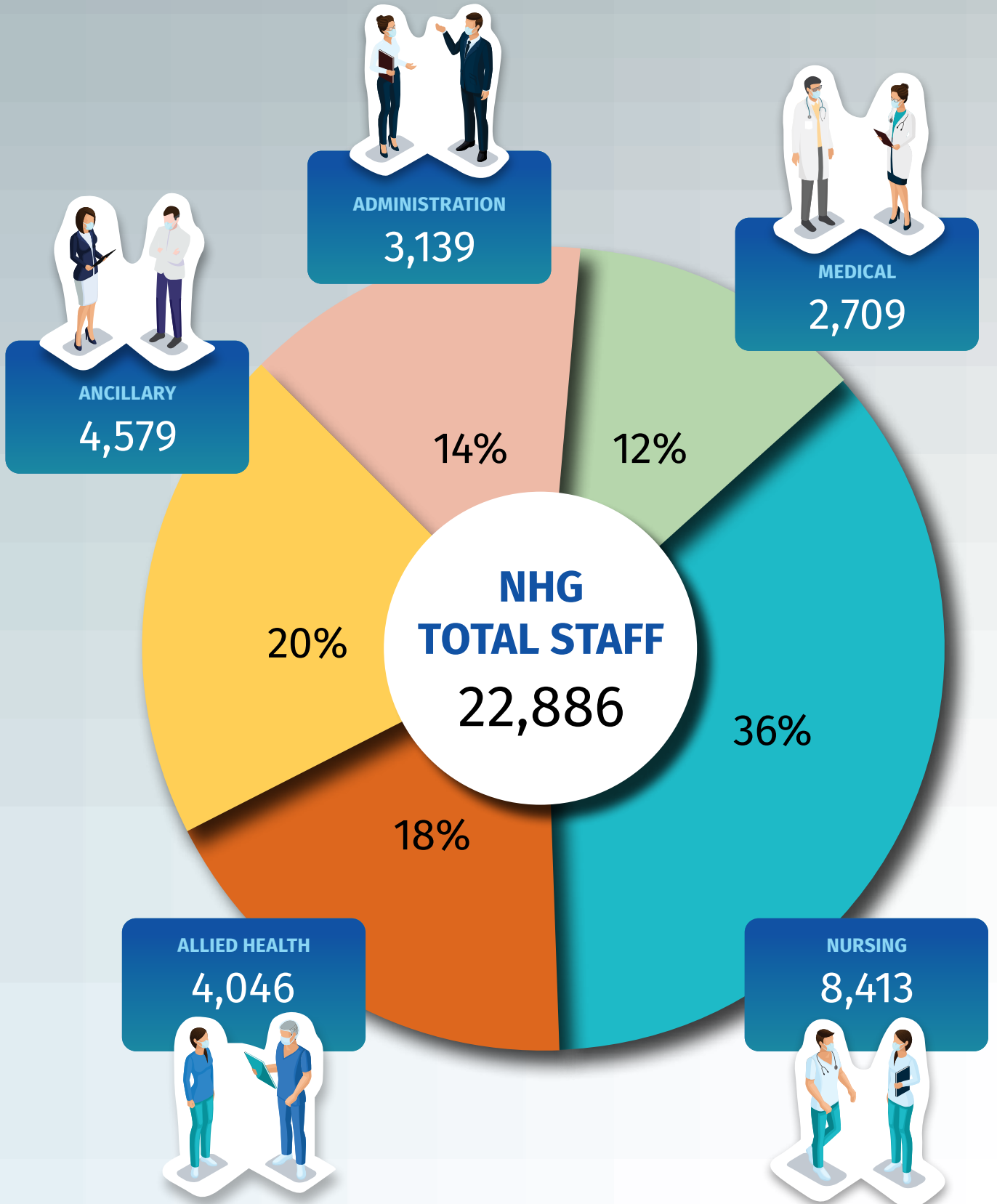
2,205,275

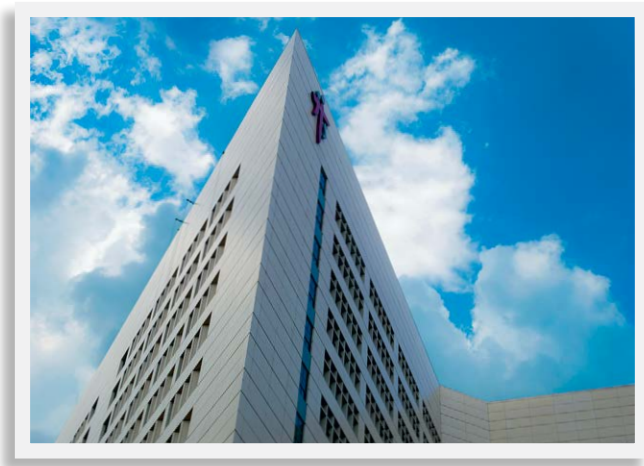


STATISTICS

DISTRIBUTION OF STAFF

AS AT 31 MARCH 2023 (FY2022)





TAN TOCK SENG HOSPITAL

11 JALAN TAN TOCK SENG
SINGAPORE 308433
TEL: 6256 6011
www.ttsh.com.sg

Tan Tock Seng Hospital (TTSH) is the flagship hospital of the National Healthcare Group, Singapore. As a pioneering hospital with strong roots in the community for 179 years, TTSH is recognised as the People's Hospital, serving a population of a million residents living in Central Singapore.

We work closely with our primary and community care partners to build Communities of Care in every neighbourhood. Together, we bring care beyond the hospital into the community as an integrated care network – Central Health.

As one of the largest multidisciplinary hospitals in Singapore, TTSH operates 2,000 beds with centres of excellence including the National Centre for Infectious Diseases (NCID), Institute for Geriatrics & Active Ageing (IGA), NHG Eye Institute (NHGEI), and TTSH Rehabilitation Centre. TTSH is set to open a 600-bed Integrated Care Hub to advance recovery and rehabilitative care.

As a healthcare leader in population health, systems innovation, health technologies, and workforce transformation, TTSH hosts Singapore's largest purpose-built innovation centre for healthcare - the Ng Teng Fong Centre for Healthcare Innovation (CHI) and its Co-Learning Network of 85 local and international partners and affiliates.

KHOO TECK PUAT HOSPITAL

90 YISHUN CENTRAL
SINGAPORE 768828
TEL: 6555 8000
www.ktph.com.sg

Khoo Teck Puat Hospital (KTPH) is a 795-bed general and acute-care hospital, which opened in June 2010. Serving more than 550,000 people living in the north of Singapore, KTPH combines medical expertise with high standards of personalised care, set within a healing environment, to provide care that is good enough for our own loved ones. From intuitive wayfinding to logical clustering of services, KTPH's design is focused on providing a hassle-free experience for patients.

The hospital has been designed with patients' comfort in mind. Since its opening, the building has garnered numerous awards for its green and energy-efficient design. Patients can enjoy comfortable accommodation in different categories of wards with views of greenery and naturally cool air from improved ventilation. KTPH also provides a wide range of outpatient specialist services.



WOODLANDS HEALTH

17 WOODLANDS DRIVE 17
SINGAPORE 737628
CENTRAL APPOINTMENT HOTLINE: 6363 8000
www.wh.com.sg

Woodlands Health (WH) provides care for the North-Western population in Singapore. From December 2023, WH will offer rehabilitative and sub-acute care services at the hospital, as well as selected specialist services at the Medical Centre.

The rest of the hospital, including the emergency department and acute wards, will be progressively opened from May 2024 onwards. When the Campus is fully opened, it will have about 1,000 beds in its acute and community hospital, which are housed together for better integration of services, along with almost 400 beds in the long-term care tower. Provisions are in place to expand to a total of 1,800 beds to meet future needs.

Beyond the Campus, WH has been serving and empowering residents in their health journey through its Community Health Posts and outreach efforts. Initiatives introduced to help improve the right-siting and accessibility of care within the community include the GPFirst Programme in the North, the first community-based Urgent Care Centre at Kampung Admiralty, and the NurseFirst helpline.



INSTITUTE OF MENTAL HEALTH

BUANGKOK GREEN MEDICAL PARK
10 BUANGKOK VIEW
SINGAPORE 539747
TEL: 6389 2000
www.imh.com.sg

The Institute of Mental Health (IMH), a member of the National Healthcare Group (NHG), is the only tertiary psychiatric care institution in Singapore. Located on the sprawling 23-hectare campus of Buangkok Green Medical Park in the north-eastern part of Singapore, IMH offers a multidisciplinary and comprehensive range of psychiatric, rehabilitative, and therapy services in hospital-based and community-based settings. The 2,000-bed hospital aims to meet the needs of three groups of patients – children and adolescents (aged below 19 years), adults, and the elderly. Besides providing clinical services, IMH dedicates resources to carry out mental health promotion and raise mental health literacy. IMH also leads in mental health research and training the next generation of mental health professionals in Singapore.



YISHUN COMMUNITY HOSPITAL

2 YISHUN CENTRAL 2
SINGAPORE 768024
TEL: 6807 8800

www.yishuncommunityhospital.com.sg

Yishun Community Hospital (YCH) is a 224-bed hospital, which provides intermediate care for recuperating patients who do not require the intensive services of an acute-care hospital. Opened in November 2016, YCH provides a range of services from rehabilitation and sub-acute care to geriatric, dementia, and palliative care services, to help support the growing ageing population in Singapore.



NATIONAL HEALTHCARE GROUP POLYCLINICS

HEADQUARTERS
3 FUSIONPOLIS LINK #05-10
NEXUS@ONE-NORTH (SOUTH LOBBY)
SINGAPORE 138543
CONTACT CENTRE: 6355 3000
www.nhgp.com.sg

National Healthcare Group Polyclinics (NHGP) forms the primary healthcare arm of the National Healthcare Group (NHG). Its eight polyclinics serve a significant proportion of the population in the Central and Northern regions of Singapore.

NHGP provides a comprehensive range of health services for the family, functioning as a one-stop health service centre providing treatment for acute medical conditions, management of chronic diseases, women and children services, and dental care. The focus of NHGP's care is on health promotion and disease prevention, early and accurate diagnosis, disease management through physician led team-based care, as well as enhancing the capability of Family Medicine through research and teaching.

Through the Family Medicine Academy and the NHG Family Medicine Residency Programme, NHGP plays an integral role in the delivery of primary care training at medical undergraduate and post-graduate levels. With the Primary Care Academy, NHGP provides training to caregivers and other primary care counterparts in the community sector.



NATIONAL SKIN CENTRE

1 MANDALAY ROAD
SINGAPORE 308205
TEL: 6253 4455
www.nsc.com.sg

The National Skin Centre (NSC) is an outpatient specialist dermatological centre with a team of dermatologists who have the experience and expertise to treat a wide variety of skin conditions. The Centre also aims to facilitate subspecialisation and be the national focus for the treatment, research, and training on all aspects of skin diseases. With a comprehensive range of subspecialty services and serving about 70 per cent of dermatology outpatient attendance among public healthcare institutions in Singapore, NSC is firmly established as a reputable dermatology centre locally and in the region. NSC also collaborates with the Agency for Science, Technology and Research (A*STAR) and Nanyang Technological University (NTU) to operate the Skin Research Institute of Singapore (SRIS), which focuses on conducting high impact, inter-disciplinary skin research designed to translate into improved health outcomes and quality of life.



NATIONAL CENTRE FOR INFECTIOUS DISEASES

16 JALAN TAN TOCK SENG
SINGAPORE 308442
TEL: 6256 6011
www.ncid.sg

The National Centre for Infectious Diseases (NCID) is a purpose-built facility designed to strengthen Singapore's capabilities in infectious disease management and prevention. NCID houses clinical services, public health, research, training and education, and community engagement functions under one overarching structure. In addition to the clinical treatment of infectious diseases and outbreak management, the expanded roles and functional units of NCID include the Infectious Disease Research and Training Office, the National Public Health and Epidemiology Unit, the National Public Health Laboratory, the National HIV Programme, the National TB Programme, the Antimicrobial Resistance Coordinating Office, and the Infection Prevention, Control and Outreach Office of NCID. Benchmarked to international standards and best practices, NCID will enhance Singapore's ability to effectively manage infectious diseases.



NHG CARES SERVICES

3 FUSIONOPOLIS LINK #03-08
NEXUS@ONE-NORTH (SOUTH LOBBY)
SINGAPORE 138543
TEL: 6333 1000
www.nhgcares.com.sg

NHG Cares Services (NHGCS) is a strategic business group that was established in January 2023 to support and implement NHG's Population Health strategy. NHGCS comprises six distinct business units: NHG Allied Health, NHG Cares Institute, NHG Diagnostics, NHG Pharmacy, NHG Primary Care Office, and NHG Telehealth & Call Centre.

NHG launched the "NHG Cares: It's in Your Hands" population health campaign as a demonstration of our commitment to support the nation's health plans, including *Healthier SG* and *Age Well SG*. NHGCS collaborates closely with key stakeholders, including partners in primary and community care, to jointly enhance the quality of care and overall health outcomes for our residents.



NATIONAL HEALTHCARE GROUP DIAGNOSTICS

3 FUSIONOPOLIS LINK #05-08
NEXUS@ONE-NORTH (SOUTH TOWER)
SINGAPORE 138543
CONTACT CENTRE: 6275 6443 (6-ASK-NHGD)
www.nhgd.com.sg

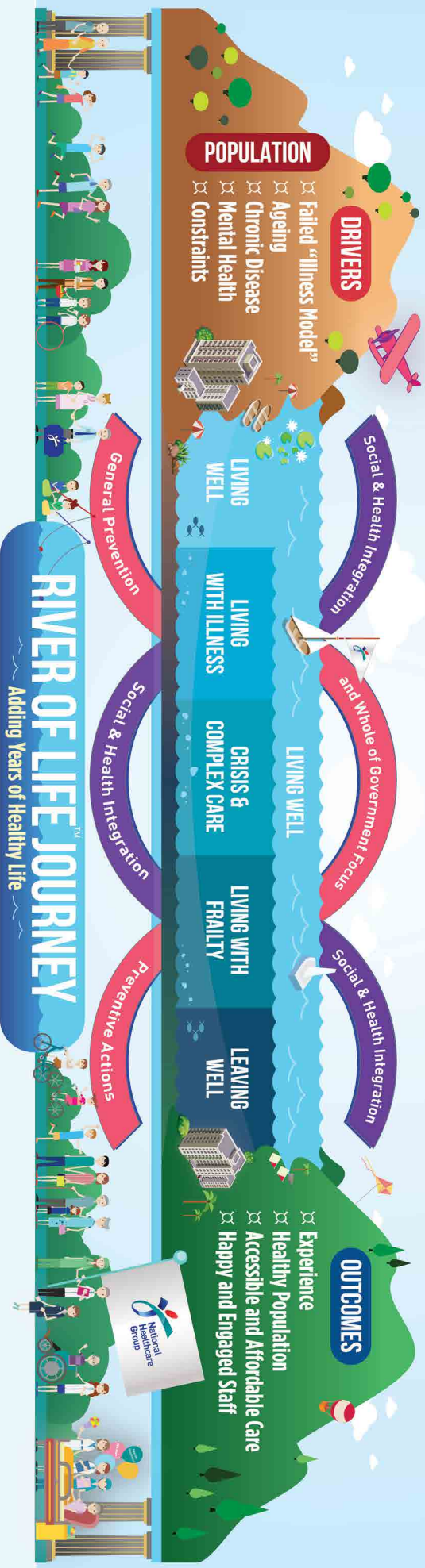
National Healthcare Group Diagnostics (NHGD) is a business unit of NHG Cares Services, providing quality laboratory and imaging services at the primary healthcare level. Via its extensive network of imaging centres, laboratories, and a fleet of mobile service vehicles, NHGD provides one-stop imaging and laboratory services that are accessible, cost-effective, timely, seamless, and accurate. In its continuous quest for quality excellence, NHGD received international accreditation such as ISO 15189 for medical testing and medical imaging.



NHG PHARMACY

3 FUSIONOPOLIS LINK #05-07
NEXUS@ONE-NORTH (SOUTH LOBBY)
SINGAPORE 138543
TEL: 6340 2300
www.pharmacy.nhg.com.sg

National Healthcare Group Pharmacy (NHGPh), a business unit of NHG Cares Services, provides a wide range of pharmacy services to meet the needs of the community. Our pharmacies offer trusted services to help the community use their medication in a safe, effective, and responsible manner. As the leading provider of pharmacy services in the long-term care sector, we actively address the needs of the senior community and their caregivers. Our team of pharmacists provides clinical pharmacy services to help customers achieve the best results for their prescribed therapy by working with other members of the healthcare team. Customers can seek advice on medication and purchase quality and affordable healthcare essentials from our retail branches and online store.



✓ Guiding Principles

1. Public Health: River of Life; Building Resilience in Self-Care and Managing Crisis
2. Determinants of Health: Some have Higher Risks
3. Current ills of Healthcare: Cottage, Episodic, Reactive, Limited, and Variable

✓ Better Care Principles

1. Care and Grow our People: Better People, Better Care
2. Activate and Involve our Population and Patients: Better Ownership, Better Care
3. Relationship-Based Healthcare: Better Trust, Better Care
4. More Goods in the Basket: Better Value, Better Care

✓ Key Enablers

1. Organisation Development Transformation
2. Finance & HR Transformation
3. Information & System Transformation
4. Execution & Actualisation Excellence
5. Vision, Values & Collective Leadership
6. Mindset Transformation

Building Healthier, Happier Communities Together



Members of NHG:

-  **Tan Tock Seng Hospital**
National Healthcare Group
-  **Khoo Teck Puat Hospital**
National Healthcare Group
-  **Woodlands Health**
National Healthcare Group
-  **INSTITUTE of MENTAL HEALTH**
National Healthcare Group
-  **Yishun Community Hospital**
National Healthcare Group
-  **National Skin Centre**
National Healthcare Group
-  **National Skin Centre**
National Healthcare Group
-  **National Skin Centre**
National Healthcare Group
-  **NATIONAL SKIN CENTRE**
National Healthcare Group
-  **National Centre for Infectious Diseases**
National Healthcare Group
-  **National Healthcare Group SERVICES**
-  **National Healthcare Group DIAGNOSTICS**
Adding years of healthy life
-  **National Healthcare Group PHARMACY**
Adding years of healthy life
-  **National Healthcare Group POLYCLINICS**

where

